The Builder.

VOL. XIV.—No. 703.

BARRACKS, forts, and military hospitals are being built or prepared for in various places and it is of the utmost importance to the country that these works should be executed in the best possible manner,—that the structures may be efficient in the highest degree, combining all the most recent improvements, and at the same time that the public money should not be wasted. The question, therefore, arises, what is the condition of the Royal Engineer Department, to which the direction of these works is entrusted? Our information, so far as it goes, would lead us to give a very unsatisfactory reply. The department consists of two branches, as we have before now pointed out, one military, the other civil. The first consists of about 300 military officers, costing somewhere about 200,000*l.* per annum; and the second, or civil branch, comprises about 127 clerks of the works (as they are called), 154 foremen of works, and a few others, at a cost of about 76,000*l.* per annum.

The duties of the various military and civil members are laid down in a "Code of Regulations," and whilst it is there stated that the military officers should be at the head of affairs, and perform many of those professional duties which usually appertain to a civil engineer and architect, yet it also exacts to a great degree the qualifications of a civil engineer and architect from the clerks of works, and gives the superintendence out of doors to the foremen of works, who are therefore what in civil practice would be called clerks of works. These foremen of works, however, as we are told, are drawn from attending to the duties of superintending outside, and are employed in performing the officers' duties of drawing and estimating and measuring work, so that their more legitimate duties are frequently neglected, while the higher duties exacted from them are imperfectly performed. A jealousy exists beween the two branches, and from the civil half numerous complaints have reached us from time to time, which demand attention. We consider it our duty to bring the objections forward, and if sound it will be the duty of the country to provide a remedy. We speak, then, for the civil branch of the service,—not obstinately, because our information is to a certain extent *ex parte*, but with the belief that what the objectors say has truth in it.

To enable the engineer officer to maintain his position, it is thought necessary to make the public suppose that the designs for all sorts of buildings executed emanate from them. But is this the fact? We believe not. The education at Woolwich does not make the young officer competent for this position; and when he leaves the school, he is at once placed in command of what we are to suppose is a staff of experienced civilians, and gives at times, at any rate, as we happen to know, very nonsensical orders on matters of which he is positively ignorant. He is placed thus in a false position, and, with some few exceptions, remains in it.

This is what sometimes takes place. The inspector-general of fortifications in London is directed to forward designs for extensive works, and some young officers of engineers are employed, at the station where the work is to be carried out, to prepare them, who, after various attempts on the patience of the London authorities, give up the affair. Then a clerk of works, or a foreman, is set to the task, who is hurried to make up for the lost time; and as these civilians know that they are working for the credit of the military officer, and not for their own, they feel no particular interest in the matter; and so things are not so well arranged as they might be. When they have completed the plans and specifications and estimates, they bring them to the military officer, who kindly gives the advantage of his name and rank to crude productions, of which, perhaps, the civilians who drew them are ashamed.

In due course the project is approved, and money granted, on which three or four junior officers, lieutenants of Royal Engineers, and two or three foremen of works, are appointed. The latter act in the capacity of clerks of works, and complaints are made to us that the works are very little advantaged by the military overlookers. Collisions sometimes occur also with the contractor for the works, as the military officers are disposed to consider all civilians, the contractors and mechanics employed by him included, as so many private soldiers placed under their command. The works being finished, the clerk of works, or foreman of works, takes the measurements with the contractor, the military officer signs them on the last page, and then he is said to have projected, superintended, and finally to have measured up all the works; and if they have been executed without any very serious blunders apparent to the public, he is complimented as a most efficient engineer; but if the blunders should be too obvious, the unfortunate foreman of works is dismissed for not controlling his superior military officer, and bringing all due credit to him individually, and to the whole of the corps generally.

Unless we are misinformed, the military engineer officer, as a rule, is not qualified to perform civil engineering duties, or to prepare projects for such works, or even to organise and be at the head of any such works. He has been fortunate in surrounding himself for the last thirty years with professional civilian assistants, under some indifferent and inappropriate title, to keep them from public view, who have performed the greater part of the works of the department, very indifferently in many cases, because working without hope of credit. The clerks of works and foremen who have been many years in the office, have been gradually growing bolder in their demands for proper recognition. This was foreseen some years ago, and many efforts have been made to induce the younger officers to study, and become fit for the position they are supposed to fill, with what success, however, we are afraid to say. The symptoms in Lord Panmure's office seem to show that attention has been awakened there; and it is to be hoped will not be allowed to slumber again before something be done.

The permanent staff of the Royal Engineer department at Aldershott consisted of about thirty members, viz. — Sir Frederick Smith, Commanding Royal Engineer, and six or seven officers of Royal Engineers, eight clerks of works, ten foremen of works, and five clerks. Those who knew the department foresaw the result,—*utter confusion*. We have already told our readers something of the works there.

Agreeably with the "Code," the several clerks of works and foremen of works were told their duties at starting; and after they had been at work for some time, one did not know what the other close at hand was doing, or intended to do: each worked on his own hook, irrespective of the other's proceedings, each being independent of the other, and responsible to the engineer officer alone, who was incapable of guiding and regulating the whole. The consequence was, that one clerk of the works placed his huts where another should have put his; one drained a portion with a 9-inch drain, and then came the next one with a 12-inch drain for the same purpose, not knowing of what had been done in the matter till he accidentally cut through the work.

The financial affairs were in much the same state of chaos, till at length it became neccssary to place the engineering matters in other hands. The drainage of the camp was entrusted to a London civil engineer, and Captain Collinson, Royal Engineers, took the place of Sir Frederick Smith. A surveyor was appointed at 500*l.* a year; an architectural clerk of works at 300*l.* per annum; two draughtsmen and a few others. But it must be evident that, unless there is a professional *head*, capable of setting all his staff to work, and knowing what every one is doing, with a view, as the camp is springing up in all directions, to a perfect whole, little improvement can result.

The new temporary professional appointments at Aldershott have given dissatisfaction to the various members of the permanent civil engineer staff, as they consider the failure is owing to the defective and antagonistic system of the department rather than to want of talent or attention on their part; and when the Government saw at length the absolute necessity of making these superior civil appointments, the qualified members of the department think they should have been selected to fill these offices.

We have, then, the singular spectacle of a public department so divided that one half is constantly struggling against the other half; the military branch being constantly obliged to coerce the civil branch into the performance of all the engineering work, in the office as well as outside, whilst the latter as strenuously resists as far as is compatible with the holding of their appointments.

An official committee of four or five members has recently been appointed to sit in London, on the civil branch of the Royal Engineer department: these members consist of one or two gentlemen from the Treasury, two from the Ordnance, and one engineer officer. The object of their deliberations is to get rid of this large permanent civil establishment if possible, or, if not, to re-organize it on some other footing,—a very difficult matter.

It would seem necessary either to leave the Military Engineering department to the military engineer officers, assisted by the Royal Sappers and Miners (which, its enemies say, would bring the department to the ground in a few months), or to create a new *Civil* Engineering department, on a similar plan to that of the Commissariat, Medical, and Ordnance departments. Under such a department, the engineering duties might be carried out in a prompt and satisfactory manner, in a spirit of greater fairness to the contractor and greater economy to the public.

We hear that a London architect has been employed by Lord Panmure to design the new officers' barracks at Dover, at which we cannot but rejoice, remembering some of the crude erections put up by the Royal Engineer department.

We have not by any means exhausted the subject, and shall have occasion very shortly to return to it: all that we can add, however, on the present occasion, is, that there are many most able officers in the department, and that these observations are addressed altogether to the system and the rule, and not to individuals.

THE BRUSSELS CONGRESS.—The Society of Arts' council have requested their chairman, Colonel Sykes, F.R.S. Mr. Thomas Twining, jun. vice-president, and Mr. T. Winkworth, to represent the society at the conferences to be held at Brussels in September next, when questions concerning the manufacturing and commercial relations of countries with each other, and the welfare of the working classes, will be discussed.

NOTES ON SCULPTURE WITH REFERENCE TO THE ROYAL ACADEMY EXHIBITION.

IT may be a question, whether the inhabitants of the little dungeon which is appropriated to the works in sculpture of our annual exhibition, do not afford us a better criterion of our actual position as regards art, both in its production and patronage, than the large rooms above-stairs, whose walls are covered with the works of votaries of the sister art,—painting.

There are many reasons why this should be so. In the first place, sculpture, as an art, has to struggle with more difficulties, and is submitted to more tests than painting, for it is a more expensive profession to the artist, a more tedious medium for the expression of his thoughts, subject to more accidents and injuries by the many operations it has to go through, and the variety of material it has to be worked in through successive changes. The natural result of these severe practical tests, and their consequent expense to the sculptor, is, that he is compelled to bring to bear upon his art a greater amount of thought in conception, greater care in execution, and more dependence on the æsthetic beauty of his composition than need characterize the work of the painter, whose art possesses the varied attractions of harmonizing colours, and the valuable aid of light, shade, and perspective, as well as the beauty of *form* and *subject*, which is the sole language in which the sculptor may express his thoughts.

The tediousness also of the practice and working of sculpture affords time for careful comparisons, and the corrections which must ensue; and these corrections must necessarily be very thoughtfully studied before they are carried into execution; for if not, the result of alteration, when a work is in its most advanced stage, may be fatal to the whole. Even this alone is a refiner's fire. It is not so with painting; for the canvass may be covered and re-covered, parts of a composition be altered, erased, and re-painted with probable advantage, and certainly without injury.

The result is a greater fickleness in painting than is to be observed in sculpture, an absence of gravity and responsibility; for neither of these will be felt where change seems to be necessary, and alterations are incessantly made with so little inconvenience.

Thus we see a greater evenness of excellence in sculpture, a more simple version of nature, a more reverent expression of great truths, a regularity of pulse which will most truly tell us of the health or disease of art amongst us. And this may have been the reason why sculpture should receive the name of the *holy art* in preference to painting; for in its purity and gravity there is a holiness and calmness ever present, whilst lightness, or anything fantastic, seems foreign to its aim and purpose.

It is upon this account that the sculpture which is annually exhibited at Trafalgar-square, deserves especial notice, as affording something more than information concerning the *number* of works executed during the past year, for it is a truthful index to our artistic progression.

In commencing a review, however short, of the more important works, it is impossible not to notice the competition of the two busts of the Queen (1221), by Baron Marochetti, and (1222) by J. Durham. This rivalry places both artists at a disadvantage, for the difference to be observed in the busts, though both something like her Majesty, makes one suspicious that they are neither very good portraits, whilst the calm quiet refinement of Mr. Durham's bust, contrasting with the *pluck* of Baron Marochetti's, changes the latter into impertinence, and reduces itself to something like tameness. 1224, by MacDowell, called "The First Thorn in Life," is a group of two children, happily arranged, both children exceedingly beautiful, but it is impossible to help wishing the artist was engaged on a subject better worthy of his chisel; something which, with a larger amount of mind in it, would give increased value to the marked beauty of workmanship to be observed in this group. 1232*, by Calder Marshall, called "Imogene asleep," is a reclining figure, full of poetic grace and purity. 1228, by E. G. Papworth, statue of a "Nymph Surprised;" 1229, "Venus and Cupid," by B. E. Spence; and 1234, "Group of Euphrosyne and Cupid," by E. B. Stephens, are all examples of that school of sculpture called the Classical. They are all instances of fine modelling, if we except the lower limbs of the last, totally missing the main purpose; at least so far as the purpose of sculpture consists in interesting the spectator, elevating his taste, and either inculcating love for some beautiful affection, or high and noble principle.

Our sculptors of the present day are certainly not happy in their selection of subjects. It is painful to observe the proportion of large figures, in the exhibition, which endeavour to illustrate a bygone creed and theology that men of the present day can never understand or thoroughly appreciate, for the simple reason that they are not believers in it.

(1242) "Resignation," by Baily, R.A. has all the characteristics and peculiarity of treatment that mark this artist's works, but will not increase his reputation.

(1255) "Maidenhood," by J. Hancock,—

> "Bear a lily in thy hand:
> Gates of brass cannot withstand
> One touch of that magic wand."

Concerning this and another of Mr. Hancock's works, both of which were in the Paris Exhibition, a celebrated French critic wrote, that "the 'Maidenhood' and the 'Beatrice' of Mr. Hancock, *possess* what Gibson's works *require*, viz. life," and if we examine minutely the expression of the face, the disposition of the drapery, and the modelling of the extremities,—the pure feeling displayed in the *posé* and general effect of this figure, comparing it with the numerous examples of the Gibsonian school which surround it, we shall be inclined to give full consent to the French verdict. It is an example of what may be done by an Englishman who has thrown overboard all servile imitations of the antique, and, acting solely on his own responsibility, produces a work of art of no school but that of nature. Note the delicate modelling of the face, hands, and feet, and it will be a lesson how perfection of detail may be made to enhance the general effect, and then compare this draped simple figure with the naked nymphs and Venuses and fat Cupids which abound on every side of it, and say which is most worthy of a Christian artist in a Christian country. 1253 and 1259 are models of colossal statues of War and Peace for the Guildhall monument to the Duke of Wellington, by John Bell. The former of these has been censured as too direct an appropriation of Michelangelo, and the latter seems to have escaped attention. Still, regarded as conventional treatments of the human figure for the subordinate parts of a monument, they have claims to attention. 1271, "Statuette of Robin Hood," by Miss Durrant, is a work which in many ways is excellent. The *posé* of the figure, and drawing of the parts, show an intimate knowledge of the human figure, whilst the workmanship displayed in its execution is of the very highest order. 1247, "The Milton Vase," by W. and T. Wills, is a work which should have interested architects, as an architectural feature worked out in a manner very much above the ordinary standard of such works. It is probably intended that the vase shall be executed in terra cotta. There is at present a great want of such ornaments for terraces and conservatories; and it is gratifying to see that this want has been felt by men holding the position of artists.

Thus having glanced at some of the more important works, it will be well, perhaps, to sum up these notes in a few remarks on the exhibition as a whole.

The real is certainly well represented in it; the ideal but very imperfectly. The wind blows still too much in the direction of Greece and Rome. A work in sculpture should either be simply a copy of Nature in her most perfect form, arranged in such a way as to exhibit the peculiar beauties of the subject in the most prominent manner, or it should take its stand on higher ground, and by selecting some natural incident, tell a tale instinctively known to every human being, appealing to our affections, and teaching us the greatness and the beauty of Nature's eternal truths.

The first of these would be *language*, the second, *expression*. The former is the A B C of the latter. Yet how few are those who know their alphabet, who ever learn to read. Of the first kind is the Venus de Medicis, which is simply the most beautiful form, exhibited in the most sensual manner, meaning nothing beyond its luxurious trick of attitude, and depending solely on its truth of imitation. This is language. But the man who did that work understood sculpture. He regarded it as it should be regarded, for though painting may be the thing of a country, sculpture is a thing of the universe. The Venus yet speaks, but in a language which only tickles the senses and pleases all, without improving them. Of the second class of subject, involving expression, we have but few examples, either in antique or modern sculpture. We look for it almost in vain in the present exhibition; and yet the reason of its absence is certainly not to be attributed to want of power. That our sculptors have; and let us hope that in future exhibitions they may apply it in a better way than they have in this.

WALTER SMITH.

THE CLOSED GRAVEYARDS.

DESTRUCTION OF MEMORIALS.

IT is satisfactory to find, on looking into some of the closed London graveyards, that pains have been taken to trim the grass and trees, and to plant flowers. In some instances the stones and other monuments seem to be allowed to remain in their original positions, and to be to a certain extent cared for. In other cases, however, the stones have been taken from their places and laid flat in regular order over the graveyards; and in others, the stones have been taken carelessly up and packed together in a corner. This is not right, for the ground marked by these memorials has been in every case handsomely paid for. Many of these stones cover the remains of well-known persons, and even those placed to the memory of people of less note have a value in the eyes of the families to whom they belonged. It should be remembered, too, that on many occasions the London tombstones have been found useful in settling disputed claims to property, and in clearing up doubtful points of genealogy.

In looking at the various monuments which crowd the metropolitan burial-grounds, it is painful to notice the rapid decay of the more perishable sorts of stone which have been selected for this purpose. On some tombs, not a century old, the lettering and sculpture are invisible: on others, of harder material, the lettering is as sharp as if only recently cut: those stones approaching to the nature of slate seem, in the open air, to be more durable than marble. A useful lesson may be gained by a visit to these receptacles of the dead, where the progressive decay of various kinds of stone is often marked with exact dates.

Many interesting monuments are in a deplorable state, and require the revival of the functions of "Old Mortality" to save them from destruction. We have already alluded to the tomb of Daniel De Foe, and could give a multitude of examples somewhat similar, but will for the present content ourselves with referring to the monument of Girtin, one of the first of our water-colour painters, the friend and fellow student of Turner. This artist, whose name will live in the history of English art, was buried in the churchyard of St. Paul's, Covent-garden, and his grave was marked, as the sexton states, by a stone, on which were some carved ornaments and an inscription: the ornamental part has been some time gone, but our informant believed that the lettering might still be made out. In this place the stones are all laid flat, but we tried in vain to find the name of Girtin upon one of them.

The cost of recutting and doing up a gravestone is but trifling, and in some cases—that, for example, of Joe Miller, in Portugal-street—the officers of the parish, much to their credit, revived the stone.

The gravestone of Woollett would by this time have been illegible, but that a few artists living in the neighbourhood clubbed together,

STOWING AWAY THE GRAVESTONES.

and had the stone repaired. We mention these instances, hoping that it may be the means of inducing the churchwardens and others of the metropolitan parishes, who have had their grounds put into order, to make a careful inspection, and discover those of note buried in each, and, where necessary, set about restoration. Something should also be done by those engaged in art, literature, &c. in preserving the memory of men who have been eminent in their respective departments. Those connected with the London stage ought not to lose sight of the gravestone of Joey Grimaldi; neither should the artist fail to preserve what marks the resting-place of Girtin, or the *literari* allow the tomb of Daniel De Foe—that admirable writer and patriotic citizen—to remain in its present condition.

After searching for the grave of Girtin, and looking into the church, we found, in the south wall, a small square marble tablet, without the least attempt at ornament, thrown out by a border of black paint, on which is the following inscription, in plain Roman letters:—"In the vault beneath and near this place are deposited the remains of William Turner, of this parish, who died September 21st, 1830. To his memory and his wife, Mary Anne, their son, I. M. W. Turner, R.A. has placed this tablet. August, 1833."

It may be mentioned, that our great landscape painter intended for many years to put up a monument in this church to the memory of his friend Girtin, and more than once had estimates given for the cost of such a work, but was not willing to go to the expense proposed,—a thing to be regretted, for a monument placed by Turner to the memory of Girtin would have been a relic of great interest.

Immediately adjoining the tablet to Turner's father is one placed by the friends of the veteran actor, Macklin, and which is much more decorated than that to the painter's father, on which is this inscription:—"Sacred to the memory of Charles Macklin, comedian (with the aid of public patronage), by his affectionate widow, Elizabeth Macklin. Obiit, July, 1797; Ætatis 107."

There is scarcely a London church or graveyard without memorials which, if kept, will have value in future years.

The monuments in these spots also show a phase in the progress of art. There are few stones out of doors in London dating back 200 years which can be deciphered; and yet on them may be traced elaborately wrought headings, similar to those to be met with in various parts of England and in Scotland. We have frequently in Scotland met with carved stones in deserted churchyards, of about the date of Charles the First and Second's time, which have been very boldly designed and artistically cut: some of the devices have been elaborate, and represent the resurrection, emblems of mortality, &c. In the graveyards of St. George the Martyr and St. George's, Bloomsbury,—two immense burial places which stretch from the neighbourhood of Hunter-street, Brunswick-square, in the direction of Gray's-inn-lane, now both closed, the grass and weeds in many parts were nearly 2 feet high. We noticed here amongst other large monuments an obelisk on an ornamental base, more than 20 feet high, surmounted by a vase. "They came to look at this, sir," said the man, "but were too late, the lettering is gone, and all that the parties could collect as regards this ambitious tomb, were traces of the armorial bearings of him who here rests." *Vanitas, vanitatis.* There were a few graves amid the general wilderness which showed marks of care—chiefly little graves, on which were planted rose-trees, lilies, and other suitable plants. One large grave was a complete garden. A very old, grey-headed man comes from a distant part of the country to visit this grave (that of his wife). He has been in the habit of doing so for many years. These burial-grounds are very picturesque: the trees are well grown, and compose nicely with the monuments, and with very little trouble these places might be made into beautiful gardens, where many living in the neighbourhood would be glad to while away an hour. At present they are deserted and neglected spots.

The other day we were in the neighbourhood of Golden-lane, St. Luke's, a district swarming with a poor struggling population. From Golden-lane numerous narrow courts, some of them of great length, run in various directions, each containing from a dozen to fifteen houses: few of these have any back yards or water-tanks: in consequence, the people depend for their water supply from a leaden pipe fixed in the court. In one of these courts there are thirteen houses, with only a half-inch pipe to supply the whole. The water comes in for about half an hour, and sometimes less, the people complain sadly of this: they cannot get sufficient in the time, and all manner of fighting and quarrelling takes place. Golden-lane is a picturesque-street, some of the houses are 300 years old at the least. There is a goodly array of barbers' poles, the black dolls of the rag-merchants, the projecting signs of the patten-makers and peg-top turners: there are also the representations of the Lombards, the publicans, and the coffin-makers, to be found in considerable numbers in this region. Playhouse-yard, and one or two other places in this locality, have interesting associations. It is gratifying to find a marked improvement here, in the manner in which the scavenger carries forward his work. The matter, however, to which we wish more particularly to direct attention, is a large burial-ground, called, the "City Bunhill-fields," or "New Bunhill-fields" Burial Ground. This ground, which is of considerable size, has been closed by order of the Government, the soil having been well packed with dead. The ground is entered by a large archway, above which was the name of the burial-ground, painted in large letters. This has been whitewashed out, and a notice stuck up that there are dry vaults "to be let below the chapel." The chapel is a large building placed in the centre of the ground: there is now not a grave to be seen, the whole having been brought to a sort of level. The experienced eye, however, detects certain raised portions, which show the great number of the tenants of these tracts. In the unwholesome looking soil, varied with a stunted sort of herbage, or fern bushes, blackened with the London smoke, and sickly looking,—an ancient horse, with his back turned to the wind, and a few black London sparrows, are the only living things visible. It is a dreary-looking scene. On finding the woman who is placed in charge of the place, we inquired what had been done with the gravestones? "What stone did you want, sir?" And on expressing a wish to see the whole of the stones which had formerly marked so many graves, we were directed to a corner of the ground, where the monuments taken from their original and rightful place were packed up against the wall, as in our sketch. Here, it is probable, they will be for a time allowed to remain, and then be still further dealt with.

Some of these stones have on them the date 1846, and others are even more recent. It is a breach of trust to remove these memorials from their proper places, and to level in such an indiscriminate manner, and with such indecent haste, so many graves.

One would almost think that it would be unnecessary to give a caution as to the danger of building on such places, but is has been done, and probably will be again attempted.

THE ARCHITECTURAL ASSOCIATION.

As a member of the Architectural Association, but unable to attend the meeting of the 27th, I have read with much interest your report, and especially the letter received from the Council of the Royal Institute of British Architects, which I think must, from its honourable and straightforward manner, bring the matter to a satisfactory conclusion, if an equally plain common-sense method is adopted by both parties in producing the result. As, of course, nothing can be done on the Association's side till next session, I think it might be of some use to state in your columns some of the difficulties to be got over so as to get opinions as to how the same might be best met eventually, and turned if possible to the advantage of both sides. I will, therefore, enumerate some

facts which belong to each, and which must, without destroying them, be made if possible to harmonize.

On the side of the Royal Institute of British Architects.

1. The charter of the Royal Institute of British Architects cannot be altered unless by Act of Parliament. [It must be by obtaining a fresh charter.]

2. The subscriptions are, for members, 4*l.* 4s.; associates, 2*l.* 2s.; students, 10s.

3. There are certain persons who from sundry causes are ineligible.

On the side of the Architectural Association.

1. Any one may be admitted on being proposed, seconded, and ballotted for according to rule.

2. The payment is 10s.

These are the true difficulties: any union can only be by reconciling these. Now, to do this, all that appears necessary is to incorporate the two, retaining in working the separate action of each. Say that the Royal Institute of British Architects passes a resolution admitting the Architectural Association in a body as students (they thereupon dropping the name of Architectural Association), and merge their own students in them, leaving to this body itself the right of electing students ever after, while they themselves reserve the same right as the Royal Academy has in regard to its students,—that of erasing from the students' list any student who shall do a disgraceful action. Then let these students (having the right of attending the Institute meetings) be permitted to meet on the alternate Monday with the Institute to read and discuss papers of their own. While the Class of Design, under its present rules, having swept up in its more energetic government the Royal Institute of British Architects' students' class, would meet, it might be as usual every alternate Friday. Under this system, the vice president of the students might be always elected along with the other members of the Royal Institute of British Architects, the members, &c. of that body voting for this election. The junior members would have full use of the Institute library, and also the publication of their own papers, and the use of its rooms, and the Royal Institute of British Architects would sweep up in this class all the general public who take an interest in its meetings and the success of architectural art,—a thing they have not yet, it is allowed, succeeded in; and that most vital principle, which has and ever will keep something of this sort afloat,—the subscription,—will be that amount which it is found is the most that can reasonably be paid by junior members. While they would thus be able to still blow off that most useful but somewhat superfluous steam through the safety-valve of their Monday, un-overawed by the elder Mammoth engines; while the older members of the profession would still exercise that influence which it is most desirable they should have over the real course of events, and which is impossible in the present alienated state of the two societies. As to the "antagonistic spirit displayed," it is well known in the Architectural Association that it has almost invariably been by men who were associates of the Royal Institute of British Architects, and generally found its strongest opposers in those who did not belong to or were even excluded by its rules from its halls. It is well to remember that some of the most distinguished members of the Architectural Association were men who were not architects at all, as Mr. Braithwaite, and that able member, Mr. Burt, whom Providence was pleased to remove.

J. T. IRVINE.

I am reminded by a letter from the secretary of the Association, that attention has not yet been fully directed to the letter which has been lately received from the secretaries of the Royal Institute of British Architects, and to the real merits of the proposal; and, in order that the matter should be carefully considered during the recess, I would call the attention of the members of both societies to some of the salient points in the discussion.

The notice afforded by the Institute certainly places the Association in a rather new position. It implies respect on the part of the former, and, as members of an honourable profession (I write as a member of the Association), we must at least show that in that respect we are their equals.

I can appreciate the pleasure and the pain with which the council profess to regard the proceedings of the Association, for I have myself felt them on more than one occasion. Therefore our reply ought not to slur over anything that the Architectural Association has done amiss, for we desire improvement; nor should our reply take too high a ground, for those whom we are addressing (I assume that we address the council) are our superiors in professional position, our seniors in the practice of the art. On the other hand, we have a position acknowledged by the Royal Institute of British Architects, of which we must not lose sight. The whole tenor of the letter we have received is an admission of *our* greater freedom of action than is compatible with *their* foundation.

When reference is made in our reply to the apparently "antagonistic feeling" shown by the Architectural Association to the Royal Institute of British Architects, it should be pointed out that this arises in a great measure from the diversity of object in the two societies, the necessary contrast between the aspiration of the younger members and the satisfaction of the older practitioners.

The desire expressed, that the exercises of the Institute should become more serious and extensively attended, should be echoed, and the want of any "*direction*" (see our former memorial) pointed out as a great cause of the present defect.

As regards "co-operation" or "fusion," the two are incompatible. Co-operation requires a separate basis: fusion implies incorporation, unity of government. The intention of the Institute is to give the established architect a name for recognition. The intention of the Association is to lend a helping-hand to all who are desirous of advance. So far the societies contrast: both, however, seek the advance of the science, and the increase of knowledge and information on subjects cognate with our art.

The practicability of any connection, so far as the Architectural Association can consider it, must depend upon the public expression on the part of the Royal Institute of British Architects, of their real intention to cultivate affinity with the student.

The object that draws most of us to the meetings of the Architectural Association is the reading and free discussion of papers, the meeting with friends, and the study of design, by comparing the ideas of others with our own. These are almost the only means the Architectural Association has been able to take to further the study of Architecture.

The Royal Institute of British Architects is an institution formed for the "general advancement of civil architecture and for promoting and facilitating the acquirement of the knowledge of the various arts and sciences connected therewith." The organization, as settled by the charter and bye-laws, forms a means for giving expression to the wishes of those devoted to the profession and for the acquirement of knowledge on cognate subjects. Their library is most valuable alike to the practitioner and to the student. Their opportunities of acquiring information from all quarters are most extensive. Everything, from their position and prospects, is most advantageous. The means at command, either functional or acquisitional, are not, however, as the Royal Institute of British Architects is at present constituted or carried on (I know not which) used to such an extent, nor is the earnest intention of advancing the art exhibited, as such a profession ought to be: such I believe to be the prevalent impression.

I do not know anything to be fairly subject of complaint in the bye-laws, the terms of membership, the several declarations or the subscriptions, the expenditure of the finances or the courteous behaviour of the secretaries and other officers; yet, with all this, I am satisfied that there is such a pressure of authority at all the meetings, something of so overbearing a character in the occasional inanities of the speakers, and such a want of any vigorous executive to put down that which does not "promote" or "facilitate" "the acquirement of knowledge" at the meetings of the Institute, that I should myself regret if it could be stated that this was all the opportunity accorded to the architectural student of London for the acquisition of information or the exercise of his communicative powers.

On the other hand, I should myself greatly prefer, instead of the meetings at Lyon's-inn Hall, meetings of young architects in the library or theatre of the Institute; and if the associates would, as a body, meet together at times distinct from those of the ordinary general meetings, I am confident great benefit would result. Such meetings might be held either for the study of design or for the discussion of papers, and the use of the library and casts belonging to the Institute would be of the utmost value.

I am not acquainted with the history of the two societies now amalgamated in the Institute: I should judge, however, from the "unity of action" of the combined mass, and the fact that its rate of motion is so small, that there must have been something antagonistic in the direction of the original bodies.

If it be possible for the members of the Association, as such, to meet at the rooms of the Institute, I can conceive great advantage to arise to the students. I suspect, from the feeling exhibited at the last special meeting, that the Institute is not disposed to take any more public position than it can avoid, but the "pledge of co-operation" now given is such as the Architectural Association cannot, without great discredit, avoid accepting to the utmost extent to which such co-operation is available. The purposes of the Royal Institute of British Architects and the Architectural Association are to a great extent the same. The Association expresses a somewhat warmer temperament than the Institute.

If the students' list at the Institute were open to all respectable students of architecture, without respect to age above fifteen, and at a subscription of the same amount as that of the Association, entitling to the use of the library and attendance at the meetings, then the objections to joining the two societies must be reduced to very few. The students might have their own meetings, at which associates should be permitted to take part, and so far as the present uses of the Architectural Association are concerned, such a class would better effect them.

The Architectural Association has, in its time, done much to assist the formation of the Architectural Exhibition. It has discussed and brought forward the competition question, but with little effect. It has recently memorialized the Royal Institute of British Architects for an examination. In these public matters it has been of service. As regards the last of these, a class of students of the Institute meeting as I have suggested, would have been equally effective. But as regards the other matters, as regards introducing before the architectural public questions of importance affecting the profession, some mode of giving expression to the opinions of the younger members is required. That class, represented by the associates of the Institute, ought to be heard, not only as an appendage to a body of advanced practitioners, but as the really thinking portion of the profession, those most vitally interested in obtaining that fair play which the exercise of our calling requires.

If the council of the Institute can overcome this difficulty, the task of union will not be of much difficulty; but when we consider the want of energy on the part of the Institute of late years, we can hardly wonder that many members of the Association are desirous that at least for this last-mentioned purpose there should remain a distinct body in the profession,—a society not tied in any way to another, more weighty and authoritative than itself, but one, situated in the metropolis, that can take up questions of a public nature, and can give public expression to its opinion; even though, while expressing the views of the younger members, they may be acting in opposition to the voice of the elder body.

THOS. M. RICKMAN, A.I.B.A.

PROVINCIAL NEWS.

Grimsby.—The dock company here have commenced excavating for the foundation of sixteen new offices, near the entrance of the new dock works. The Anglo-French Company will require large accommodation.——The surveyor to the local board, Mr. Micklethwaite, has resigned, having obtained an appointment under Mr. H. Fowler, C.E. who is about to proceed to Algeria with a staff of English and French surveyors, to lay down lines of railway, by order of the French Government.

Norwich.—At a meeting of the town council a few days since, Mr. Gorell, adverting to the new free library, asked if there was any truth in the report that some beams had given way in the building? The City Surveyor replied, that an iron girder had given way from a flaw in the iron. It had been repaired, and was now put up again. Mr. Kerrison said, as the School of Design was to be held in the new building, and as probably 700 or 800 persons would have to go into it, he should like to have the building properly tested first. The weight of 700 or 800 persons would be 50 or 60 tons, and he thought some test should be applied. The City Surveyor said, the weight would not be all concentrated in one spot or room. Mr. Kerrison, admitting that, observed that before the Foundry-bridge was thrown open, it was tested by 40 tons being put upon it. The City Surveyor said, the girder which had proved defective had been tested with a weight of 40 tons. The girder had been repaired and extra trussed. It had before given way from a flaw in the iron, and not from any defect in the construction. Mr. Darkins said, he had some little to do with the Foundry-bridge, and he remembered, when it was first put across the stream, it was filled with Scotch bullocks. Mr. Bidwell, amid considerable laughter, asked whether a lot could not be got into the library building.

Lowestoft.—The continuation of the Esplanade to the extreme of the Wellington-terrace, is about completed. It will provide from the Royal Hotel an unbroken marine drive of upwards of three-quarters of a mile in length. A promenade has also been constructed quite

through Pakefield, with seats for pedestrians. The Wellington-terrace is drawing towards completion, and the grounds in front are being laid out. The band of the Norfolk artillery has been engaged to perform on the South pier every day, Sunday excepted.

Eye.—The corporation of this borough has resolved to take down the old Town-hall, and erect a new one, to correspond with the new Corn-exchange. Plans by Mr. Lamb, of London, architect, have been approved of. The estimates are about 1,500*l.* It will contain two reading-rooms, &c. on the ground floor: the magistrates' room will be upstairs, and there will be an approach through the principal entrance to the tower, with other conveniences. The Corn-exchange will be 74 feet in length, and 27 feet wide, with wood floor in diagonal patterns. The height of the tower, including the spire, will be 74 feet. The tower, when built, will contain the clock, which will show three or four dials, if required. The corner house in Broad-street, near the theatre, is in part taken down and a new house building, which will contain a magistrates' room, for the Hartismere Hundred, and two lock-ups, with residence for two policemen. These buildings are erected by Mr. E. Chenery, and let to the county of Suffolk, at an annual rent. The plans were furnished by Mr. Farrow, of Diss, architect.

Lynn.—The public baths were opened last week. There are eight slipper baths, two shower baths, one large swimming bath, and a superintendent's house. The cost, including extras, fittings, and the architect's fees, will be under 1,300*l.* The swimming bath and one-half of the slipper baths, are supplied with sea water.

Brighton.—A vestry meeting was held last week, to consider a report of a committee of directors and guardians, adopted by the latter, recommending that the present workhouse be altered according to plans prepared by the parish surveyor, at an estimated cost of 803*l.* and that new Industrial Schools, on plans also prepared by the surveyor, and approved by the Poor-law Board, should be erected, at an estimated cost of 7,899*l.* on a plot of land belonging to the guardians, lying between the reservoir and the Race-hill. After considerable discussion, the meeting was adjourned for a fortnight.

Leominster.—Shobdon Court, situated about eight miles from the town of Leominster, the seat of the Right Hon. Lord Bateman, is undergoing extensive alterations and improvements, under the direction of Mr. Alexander Milne, of Northampton. The works proposed are,—to renew entirely the whole of the windows with oak sashes and frames, and plate glass; new principal staircase of wainscot oak, and the interior fittings of the building to be reconstructed. A new terrace and orangery are to be added, the whole length of the south front. A contract has been completed with Messrs. Ruddle, of Peterborough, for 12,250*l.* for the execution of these works, which are expected to occupy about eighteen months in completion.

Liverpool.—The new landing-stage contractors, Messrs. Vernon and Son, are now proceeding with the work. Fifty-two of the sixty-one large air-tight floating tanks, or pontoons, on which the superstructure is to be supported, are placed in position. The kelsons, or retaining girders, are fixed over the fifty-two tanks, which are now ranged in position. The main timbers, or chief framing, are fitted, and placed over fifteen of the floating tanks, and a large additional portion of the main timber-work is in advanced progress. In accordance with the terms of the contract, according to the *Journal*, the new landing-stage is to be placed, and ready for use, at the Prince's Pier, in March next.

Preston.—On Monday before last, Mr. Ranger, superintending inspector of the General Board of Health, visited Preston to inspect the works in progress in connection with the supply of water to the town. The Local Board wanted the sanction of the General Board to borrowing more money to carry on the scheme. A sum of 40,000*l.* (sanctioned) has already been expended, together with an additional sum of 15,000*l.* making in all 55,000*l.* The General Board's consent is wanted for the 15,000*l.* and for a further sum of 25,000*l.* Mr. Ranger, accompanied by the town clerk and the engineer, went over the works. He visited the office of the Local Board with a view to ascertain the exact cost of the works now completed; but we understand, says the local *Guardian*, that he found the books in such a state that he could not obtain this information, and until a satisfactory account is rendered of the expenditure, he will not certify even as to the 15,000*l.* already spent. As regards a farther sum for works yet to be undertaken, it is added he required to see the working plans, sections, estimates, and probable cost, but was unable to obtain the necessary information, neither plans nor estimates being ready.

ON ORNAMENTAL LEADWORK.

AT the present time, perhaps there is no metal considered less suited to the purposes of the fine arts than the subject of the present notice. However, the great artists of the Middle Ages thought very differently; then architecture was (and it always must be) eminently an architecture of figures and subjects, and accordingly they compelled even lead to bear its part in the great poem of Christian art. They cast it into ornaments, they hammered it into figures, and with the help of tin they executed imperishable paintings, which, when placed beyond the reach of man, have far more successfully resisted the ravages of time, than the crumbling sculpture or the worm-eaten dossel.

At the same time it must be confessed, that the intrinsic value of the material has but too often been the cause of its destruction; and although as citizens we can scarcely blame the French Government for melting even the historiated lead into bullets for the defence of the country, yet as artists we must ever deplore a necessity which has left us vestiges so few, that our curiosity is rather stimulated than gratified. I can only, therefore, pretend to give a very short notice of the various objects which our forefathers produced in tin and lead, beginning with those belonging to the church—the great art patroness of the Middle Ages.

ROOFS.

Let us imagine the architect has got up the carpentry of his roof, and then proceed to ascertain how he went to work to cover it: and here it may be premised, that his roof is a very different one to those designed by the ingenious Mr. Peter Nicholson; however, the only points of difference with which we have to do at present are, first, that there is no ridge-board, the rafters meeting one another at top, while they were kept in a straight line by means of a ridge-beam below. The second point of difference is, that the king-posts stand up above the roof for a considerable distance. In the thirteenth, and early part of fourteenth century, however, when continuous ridges were used, composed of isolated members, as at Amiens or Exeter, the ends of all the king-posts, except that over the apse, were cut off, as they would not be wanted for the support of the ridge.

Now the architect in those days, as in these, had the choice of tiles, slates, or lead, to cover his roofs with; but then, as now, the latter material was by far the more costly and the more esteemed. Still, even tiles and slates, under his hands, became beautiful: the tiles were covered with variously-coloured enamels, as at Mantes, while the slates had their edges cut into divers shapes, and were disposed in patterns according to their tints.

When lead was used it was generally very thick: that at Canterbury, I am told by Mr. Austin, runs about 12 lbs to the foot. The roof being boarded, it was laid on, much the same as at the present day, except that the sheets were somewhat narrower (about 2 feet between the rolls), and that these latter were formed by turning over the sides of the sheets of lead without the assistance of the wooden rolls used by the modern plumber. If there was no ridge the rolls were continued over the top of the roof, and a little way down the opposite side, so as to allow the sheets to hang well on. If, however, there was a ridge, the method was rather different; and here it may be observed, that during the Middle Ages everything susceptible of having a ridge applied to it had one; this was the case even with the miniature enamelled "Bahuts de Limoges," and still more so with regard to the large silver chasses for reliques, some of the crestings of which were most beautiful, though of course treated according to the different material employed. The tile roofs had the crestings, several of which have been discovered at Great Malvern;* but the slate roofs were treated in a similar manner as the lead ones, to which we now return. We have supposed the roof to have been boarded, and covered with lead, with the rolls continued over the apex. Now, as these rolls would interfere with the ridge, they must be suppressed, and accordingly the sheets of lead are made to finish at some little distance (one foot or more) from the top of the roof, where they are turned in and nailed to the underside of boarding. The apex was not generally covered by two boards butting up against each other: it was, on the contrary, thought better to cut a sort of trought out of the solid, and apply it reversed to the top of the rafters, so as to form as solid a foundation for the ridge as possible. Irons in the form of an inverted Y were nailed on this inverted trought at proper intervals, and then the piece of lead forming the ridge-piece having had corresponding holes cut in the middle was slipped over them. The next thing was to cast the various members of the cresting, to solder them together (for they could only be cast in halves), to slip them over the projecting irons, and, lastly, to solder their lower extremities to the leaden ridge-piece. Where nails were used, the heads were covered with a square piece of lead, soldered at one end, and as this solder extends some way down, and is marked with the iron at a little distance, the whole looks like a coat of arms with a chef. Fig. 1 is from Amiens, and affords an excellent example of the very simplest form of ridge; unfortunately, there is nothing to tell the date by, as the sides of the fleur-de-lys have been removed on one of those occasions when the French nation, wearied with kings, expelled the dynasty and defaced its badges. Most probably, it is a sixteenth-century restoration of the thirteenth-century ridge, for the spire was burnt down, and with it part of the roof, in 1527, and when these were restored a few years after, a very different form of ridge was in vogue.†

The next modification of these simple forms is to be seen at Nayen (Fig. 2), where a cusping is attached to the bottom of the trefoil, or fleur-de-lys; this cusping being supported on two sides, would have strength enough to keep straight, and not to sag by its own weight. This example is about the middle of the fourteenth century.

I must now go for authorities to the work of M. de la Querrière, who has given several specimens of ridges, but unfortunately has said nothing of their construction. They are all constructed upon the same principle, and we now see why the king-posts are carried up, for to them is nailed at some distance above the apex of roof, a bar of iron, covered loosely with lead. The ridge, which is always of an open and delicate pattern, is cast in two halves, as usual (except when it is very light and open), is then soldered at bottom to the ridge piece, and at the top to the lead pipe covering iron bar (see Fig. 3, from an ancient drawing, published in De la Querrière's work). Occasionally as in the Hotel de Bourgtheroulde, at Rouen, the cresting is divided into two parts, one of which is fixed above, and the other below, the iron bar. In this case the upper portion is always the lightest, but still should always be kept very subordinate, as on account of having nothing to support it, it is liable to sag. De la Querrière tells us that, in this instance, it has disappeared.

Where slates were used, another decoration to the ridge-piece was the application of long pointed strips of lead, alternately pointed and curved; these were cast, and soldered on to its

* "Journal of Archæological Institute," and Parker's "Glossary."

† At Rheims, the principal member of the cresting was 2 feet high and 1 foot 6 inches wide (French measure); that at Exeter is about 1 foot high by 10 inches wide. I am afraid that even the oldest part of the Exeter ridge must be considered as a sixteenth-century restoration of an earlier one. Mr. Cornish, who conducts the works of this cathedral, has presented one of them to th Architectural Museum, where it can be seen.

lower extremity; they occnr at the Chateau Meillant (Seine Inférieure), at the house of Jacques Cœur, and at the Hotel Cujas, Bourges.

GIROUETTES.

One of the objects of permitting the king-posts of roofs, as well as the centre posts of spires and dormer windows, to project beyond the top of the roof, was to get something on which to fasten the girouette, epi, finial, or weathercock. These girouettes must have been one of the principal features in a mediæval town. Every house had one, if not several, and although there were laws occasionally passed, restricting particular forms of vanes to the nobility, there were none that I know of to prevent the bourgeoisie having theirs in the shape of animals, birds, &c. We may gain some idea of what the general effect of an assemblage of these vanes must have been from the illumination of Troy Town, published in Mr. Shaw's "Dresses and Decorations of the Middle Ages," vol. ii.

Girouettes, although remaining in far greater numbers than ridges, are, if anything, even more difficult to get at for the purposes of study, inasmuch as they are placed on the most elevated parts of the edifice, and nobody ever cares to take them down until the building itself is destroyed. However, I have been fortunate enough to meet with one in the possession of M. Benvignac, of Lille, who kindly afforded me every facility for examining and drawing it (fig. 4). The construction is as follows:—An iron rod, the length of the proposed girouette, is split at the end into four feet, which are made rather long and broad, so as to fix it securely on to the king post. This part is secured from the weather by a square hollow pyramidal covering of lead, resting on the rafters and ridge of the roof. The rest of the rod is covered by a lead pipe, to which are attached various ornaments. This principle applies to the construction of all girouettes, the only difference consisting in the ornaments, which in the larger ones will be found to be larger and more complicated. The lead pipe in these latter is made in several pieces, and each part of it is made to support itself upon the one below, which generally terminates with a flattened sphere, or some other ornament, adapted to the purpose. The upper piece of all, which rested on the top of the iron rod, had the plate of copper forming the vane soldered on to it; and Mr. Potter, of South Molton-street, informs me that in the ancient work these upper pipes had a piece of agate inside, so that there might be less friction on the top of the iron rod, but in the present day gun metal is used instead. The vane itself was painted with the arms of the proprietor, or else gilt.

It is a curious thing that Chaucer, as well as several other authors, mention the harmony made by the vanes as something to be admired.* Whether this is simply an exaggerated poetical expression for the creaking noise a number of vanes would collectively make; or whether each vane turned some mechanism concealed in the lead ornament below; or whether the vane being double, the wind, by blowing in between, produced a noise like that of an æolian harp; it is almost impossible at this time to decide.

The hospital at Beaune, in Burgundy, is the only building I am acquainted with, which has preserved the whole of its girouettes, and which can give us an idea of the effect produced by a number of these decorations; but inasmuch as they have all been restored and repaired, I can hardly consider them as quite safe guides with regard to the lead ornaments, although these latter, themselves, are pretty authentic, as several of the ancient chalk moulds are preserved and have been made to do duty again.

The general arrangement of the ornaments appears to have been this: the square pyramidal base was decorated at the sides with crockets; those in the Tournay specimen† are flat, cast in lengths of three, and then soldered on to the edges. In larger examples than this, the crockets resemble those placed in the upper part of the girouette, and described hereafter. A gilded sun, very thin and very open, was often fixed to the front of the base.

* For quotations, see "Hunt's Tudor Architecture."

† The girouette, in the possession of M. Benvignac, of Lille, came originally from Tournay.

The space between the base and the weather-cock is for the most part occupied by three tiers of ornaments: the lower consists of a flattened sphere from which project sundry squares or cylindrical short pipes, ending in stars, or quatrefoils, or masks, but more generally in a lozenge-shaped ornament, surmounted by a pediment (fig. 5); the several parts are all cast separately, and then soldered together. When this lower ornament is very large, as often happens, it requires to be supported by irons, which are attached to the centre (iron) stem; of course, in this case, the lead pipe is interrupted. The ornament in the second tier is often a repetition of the one below, only smaller; but occasionally it takes the form of an open vessel, and does duty as a bird's nest (fig. 6). They appear, indeed, to have been as fond of birds in the Middle Ages, as they now are of storks in Holland and Upper Germany, where a nest is regularly made up on the top of the house against the bird's return.

The last stage generally consists of a finial, formed of four or more crockets; these crockets are cast in halves, soldered together, the stems again soldered to lead pipe, and the inner leaves to each other. This will generally be sufficient to support them; if, however, they are rather large, each crocket has a large thin piece of iron covered with lead (copper will do alone), one end of which is soldered to lead pipe, and the other to extremities of crocket, as in the girouette on the gable of north transept, Amiens. While on this subject, it may be as well to show how the largest crockets, such as those on the spire at Amiens, which are 1 foot 6 inches in length, are managed. An iron, about 1¼ inch square, has its ends split into two parts, so that it resembles the letter T; the split part is nailed on to angle rafter, and the other, which juts out, is covered with lead. On the upper surface is soldered a piece of very thick lead, to which some of the upper leaves of the crocket are attached; the end leaves next the rafter and the stalk are of course fixed to the lead covering of spire, as usual (fig. 7). Another way of treating the medium-sized crockets was, to make the iron in the form of an L, fixed in a similar manner; the projecting part covered with lead, as usual, is soldered to the inside of the back of the crocket, in the body of which two holes are bored to keep out the wet (fig. 8). The crockets running up the sides of dormers are usually executed in this manner.

But to return to the girouette. A very favourite ornament for the upper parts was four or more thick iron wires * covered with lead, the ends of which are fixed into a thick square horizontal piece of lead, soldered on to the pipe; a little higher there is another horizontal piece, of a circular form, to which they are again soldered; the extremities of the wires end with flowers or balls (fig. 9).

FIGURES.

Another very favourite finish for a roof, especially at the east end, was a figure of the patron saint beaten out in lead. The following extract, given by M. de Laborde,† from the accounts of St. Maclou, Rouen, gives us some information upon the subject, as well as the names of the artists:—

"1514. To John Pothyn, sculptor, for having carved a prophet in walnut-wood, to serve as a mould and pattern for the works in lead."

All then the plumber had to do was to hammer sheets of lead over the wood statue until they fitted to the shape. These were cut off and soldered together again with an iron framework inside, to prevent the figure from getting out of shape; this frame was likewise useful as a means of securely fixing the whole affair. At Paris, where several of these figures have lately been executed, for the Sainte Chapelle and elsewhere, cast-iron moulds are substituted for those in wood, as will be seen by the following notice, which I owe to the kindness of M. Gerente, of Paris:—

"You are correct in thinking the angel‡ at the chevet of the Sainte Chapelle is made of lead: wood and lead are the only materials used in the fleche. For all the flat surfaces cast lead is employed, but for the ornaments and figures milled lead is hammered on to cast-iron moulds. In a few instances lead castings are met with, such as the suns in the arcades: there is no zinc used at all. The moulds for the figures are made, of course, in several pieces. The different parts of the figure having been beaten up upon them, are joined together, soldered inside, and the joinings outside made with the hammer. As to the decoration, there is no tinning at the Sainte Chapelle, but merely gilding which is done with two coats of oil yellow-tint varnish, and over it gold in leaf."

There is one difference between the ancient and modern leaden figures which I think, perhaps, deserves to be noticed. The latter are soldered together like a modern work in bronze, *i.e.* the whole of the surface is homogeneous. Now as far as I could ascertain by reference to the figures on the spire at Amiens, the former (*i.e.* the ancient ones), although soldered in parts, are, nevertheless, in two or three pieces, the joint probably being made by means of a lap, as in roofs, and the places of junction concealed by means of the folds of the drapery. In fact, more like to the ancient bronze statues at Herculaneum.*

The same method was carried out in detached pieces of carpentry covered with lead, such as pinnacles, where one, if not two of the edges is made by a lap—never by solder. In fact, it would appear to have been a principle during the Middle Ages, to lay the lead as loose as possible, and to be very sparing in the employment of solder. It still remains to be proved which is the better of these two ways of constructing figures in lead; that of the moderns is certainly the strongest; the only fear would be the chance of its cracking for want of the necessary play for the expansion of the metal.

The figure most generally placed on the apside of a cathedral, was a gigantic angel,† which was so contrived, as to answer the purpose of a weathercock by means of the wind acting on its wings. There are examples at Chatres and Rheims: the former is modern, the latter doubtful. At Evereux, the crest ended in St. Michael and the Dragon; at Rouen, with a Saint George, but of all the leaden figures which have come down to us, few exceed those on the fleche, or spire, of Amiens Cathedral, which are as large as life, and represent Our Lord, the Blessed Virgin, St. Peter, St. Paul, St. James, St. Firman, and St. Ulpha. Above them are smaller figures of angels, bearing the instruments of the passion. This fleche is truly a *chef d'œuvre*, whether we consider it with regard to its carpentry, or its leadwork. Among the many beautiful spires still left us in France, it is beyond all comparison the best. Every decoration possible to lavish upon it in the way of leadwork, has been bestowed, and that with no sparing hand. Statuary, foliage, gilding, turning, painting, are all there, and well did it deserve its title of the golden steeple.‡

W. BURGES.

* Copper wires, as in the previous instance, can be substituted.

† Notice des "Emaux, &c. du Louvre," par M. de Laborde. Paris, 1853.

‡ In some publication it is stated that this figure is in zinc.

* Several of the bronze statues in the Museo Borbonico, are made in two or more pieces, and rivetted together, the drapery, or an ornament concealing the junction.

† If I remember rightly, part of the wings of the ancient angel, are preserved in the Museum, at Chartres. They are formed of plates of copper, rivetted to one another, and pierced at certain intervals by small quatrefoils.

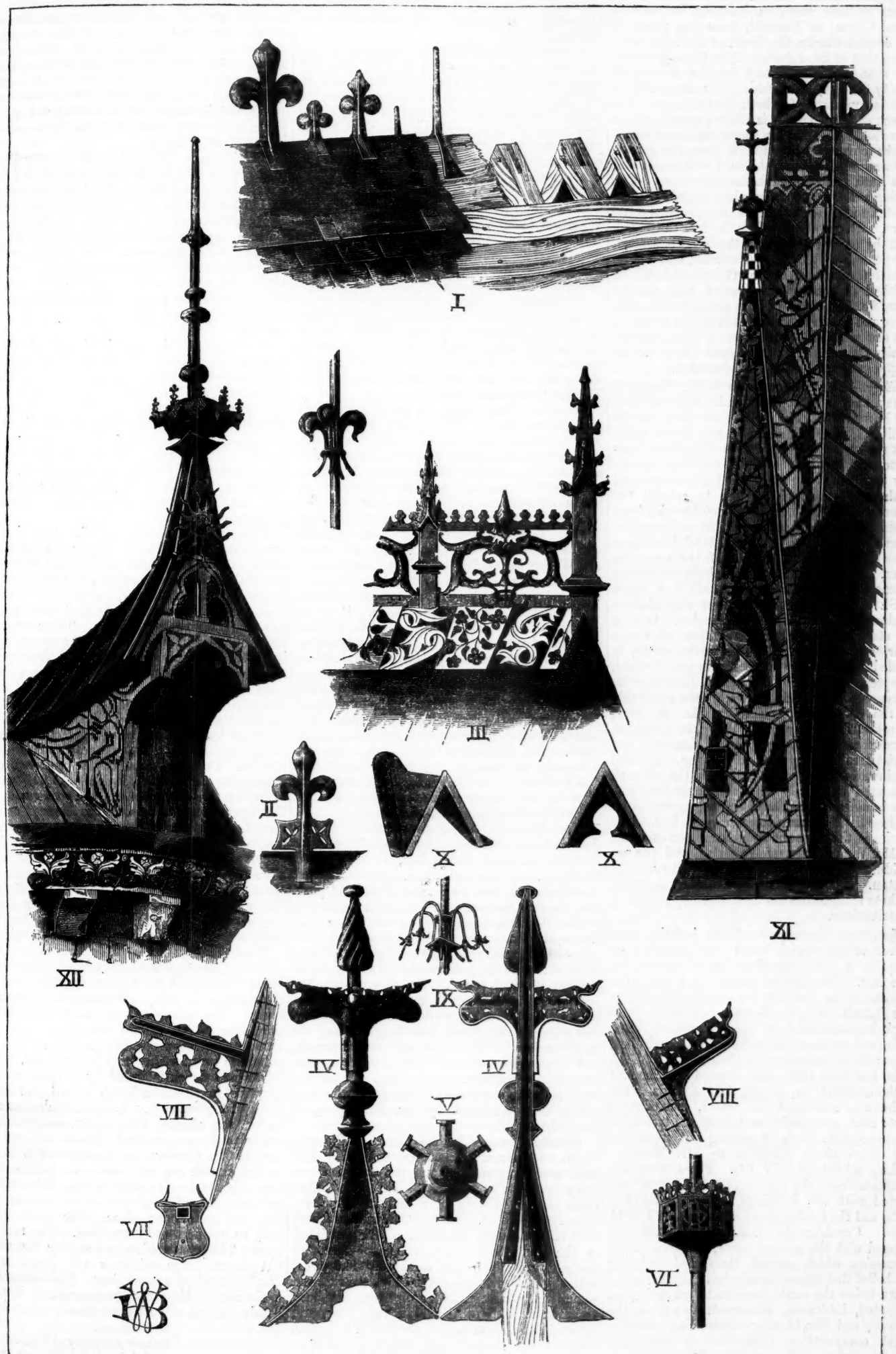
‡ To be continued. The foregoing was read at the Architectural Museum, Canon-row, Westminster.

CRYSTAL PALACE.

THE widow of the late Charles Geerts, sculptor, of Louvain, has sent to the Crystal Palace upwards of 100 of the original models of the statues he executed for the Hôtel de Ville, Louvain, and of the statuettes of saints which are in the halls, recently finished, in the cathedral of Antwerp. They are all Mediæval in character, and deserve attention.

The Picture Gallery has now a much better aspect than it had when we first saw it, and does credit to the energy and intelligence of Mr. Mogford. The light seems excellent.

DEARTH OF FREESTONE.—Several building works in Morayshire, according to the *Forres Gazette*, are at a stand-still for want of freestone. The demand at the different quarries has for some time been beyond the supply, and hands have been scarce. The material for the Keith Railway station is to be taken from Morayshire.



ANCIENT ORNAMENTAL LEADWORK.

CHURCH-BUILDING NEWS.

Hatfield Chase.—On the 8th, the dedication stones of two churches building in the Old Royal Chase, at Hatfield, from the plans of Mr. Joseph Clarke, the diocesan architect, were laid,—that of St. John's by Miss Chamberlayne, and that of Holy Trinity by the Master of Trinity College, Cambridge. Mr. Archer Houblon is contractor for both the churches. The church of Holy Trinity is Early English, with a tower and spire on the south side, and which will be covered with shingle from the forest. The walls will be of flint, lined with brick, and with Bath and Painswick stone dressings. The seating will be by open benches, and the chancel will have stall-seats laid on the encaustilc tile floors. On the south side is the Selwyn Chapel, built by an old family in the neighbourhood. The Church of St. John is smaller, and has an apsidal termination, which it is hoped will be enriched at some future period with painted glass, &c. There is an open south porch, and a tower and bells are to be added at the west end. The materials will be the same as those of Holy Trinity Church. The Old Royal Chase is fast disappearing under the Enclosure Act.

Sibsey.—The village-church of St. Margaret, Sibsey, has now been restored. Messrs. Kirk and Parry, of Sleaford, who have acted as the architects, found, on clearing away the old work, that the church was in a more dilapidated condition than was imagined. It was found necessary to replace entirely the roof of the nave and north and south aisles, and to rebuild the chancel. The body of the church has also been re-seated in modern style, and the old cumbersome pews removed. About 2,500*l.* have been expended in the reparation of the nave and aisles. The chancel has been rebuilt at the sole expense of the lay impropriator, Mr. T. F. Gape, of St. Albans. There are three stained-glass windows, by Mr. Ward, of London. One in the steeple, presented by the Rev. G. Cape, vicar, and the Rev. T. L. Edwards, curate, is divided into two compartments, in one of which is represented our Saviour, and in the other St. Margaret. A second window, on the north side of the chancel, presented by Mr. W. Saul, churchwarden, in memory of a late daughter, represents the Resurrection of Lazarus, and Christ Healing the Sick and Lame. A third window, on the opposite side of the chancel, presented by Mr. E. B. Waite, churchwarden, also in memory of a daughter, represents Christ bidding little children to come unto him. The repairs in the nave and aisles have been executed by Mr. W. Webster, of Wyberton, and the rebuilding of the chancel by Mr. Whitworth, of Boston. The greater portion of the sum spent in these restorations has been raised by voluntary contributions.

Ipswich.—The report of the building committee of the burial board was presented for adoption at a meeting of the Board in week before last. The report stated, that while the amount of the contract for cemetery buildings was 1,284*l.* the actual cost, including extra work recommended by the committee, 204*l.* odds, and extra work ordered by the architects before the appointment of the committee, 231*l.* odds, had been 468*l.* odds beyond the amount of the contract, or, in all, 1,752*l.* odds. The architects, continued the report, had charged 5 per cent. commission on 1,750*l.* and travelling expenses, with costs of getting out quantities and extra plans furnished to Mr. Notcutt; making a total of 147*l.* 10s. There were also accounts from the contractors and others connected with the buildings, amounting to 122*l.* odds, and the total expenditure had been 1,874*l.* odds. Considerable dissatisfaction was expressed with the general result, in course of the discussion which ensued, Mr. Geard declaring his belief that the architects had cut the matter down below the mark, in order to get their plan accepted, intending, afterwards to put on the extras; and Mr. Gowing denouncing architectural competitions altogether as downright humbug, or something worse. The report was finally adopted.

Yarmouth.—On Wednesday before last the Church of England portion of the new cemetery was consecrated. The cemetery is to the north-east of the present churchyard, and contains altogether about 10½ acres; 6½ acres of which are appropriated to the Church of England, the remaining 4 acres having been set apart for Dissenters. It has been constructed at a cost of about 3,500*l.*

Enstone.—The church of Enstone having been restored, was reopened on 14th inst. By means of an estate for the repair of the church, aided by contributions of parish proprietors, the parishioners have been enabled to restore and refit the whole interior fabric of the edifice, to place a new roof on the north aisle, reseat the entire church with open seats, and otherwise to improve the building. The architect for the restorations (except for those of the chancel) was Mr. Street, and the builder Mr. George Wyatt, of Oxford.

Salisbury.—The late Alderman Smith has bequeathed the sum of 200*l.* towards placing a stained-glass window at the east end of St. Thomas's Church, in this city.

Bridgwater.—A chapel is to be erected at the Cemetery here for Dissenters. The designs have been furnished by Mr. Robert Down, architect, of this town, under whose superintendence the works are to be immediately carried out. The contract has been taken by Mr. Thomas Hutchings, builder.

Tiverton.—The outlay for the parish church restorations already noticed was about 6,000*l.* The materials used are Westleigh limestone, with Bath stone dressings. In the tower, which has had the exterior restored at an expense of about 500*l.* is a painted window by Mr. Wailes, the subjects allusive to the erection of Solomon's Temple, and a memorial to the late Mr. John Barne. Over the altar there is to be a painted window, the gift of the Rev. W. Rayer, also by Mr. Wailes, the subject being the Resurrection.

Chippenham.—Messrs. C. and A. Gibbs have executed an east chancel window for Littleton Dew Church, Chippenham, Wilts. It is in memory of the rector's brother. The window is arranged with obituary subjects and emblems.

Chester.—The same artists have completed an ornamental window in St. Bride's Church, Chester, paid for by subscription, and dedicated to the memory of the Rev. Mr. Hutton, the late rector. It is placed in the east end of the church. The centre opening represents the Ascension of our Lord. The opening is 13 feet high and 5 feet wide, and the figures of the disciples are rendered of the size of life. The side openings are filled in with diaper work, on which the busts of the four Evangelists are stained.

New Brighton.—The consecration of St. James's Church, New Brighton, says the *Chester Chronicle* of week before last, took place on Thursday. The new structure is in the Pointed Norman style, and stands in a prominent position fronting the sea. It has short transepts, with side aisles to the nave, and has a full-timbered roof. The building has been constructed to accommodate 900, and of the sittings 250 are free to the poor, whilst 50 will be let at a mere nominal rental. The new church has cost 9,000*l.* in its erection, the principal portion of which has been contributed by the gentry and other inhabitants of New Brighton and its neighbourhood. Mr. Scott was the architect, and Messrs. Furniss and Kilpin, of Liverpool, were the contractors. In the east end of the building there are three stained glass windows, which were presented by Mr. Pilkington, of St. Helen's.

Clynnog Fawr.—The old church of Clynnog Fawr, near Carnarvon, has been re-opened after undergoing restoration, and the occasion was observed quite as a holiday. The open timber roofs of the building have been uniformly restored and stained. The fourteen windows have been all renovated. The outer walls are pointed in the joints with Portland cement—the inner uniformly plastered and coloured. The pews, with slight alterations, are as they were renewed some twenty-three years ago. There has been an entire refitting of the altar, rail, floor, and table. The ancient screen, supported by pillars between the chancel and transept, has been brought more into its original character, and an unsightly modern gallery above it has been removed. The ancient stalls have been restored. Four new limestone steps are placed at the bottom of the nave to ascend, and three corresponding ones at the altar. The entire floor of the tower, nave, and transepts, has been laid with new polished Yorkshire flags. The space in the chancel between the stalls and communion rail has been laid with Minton's encaustic tiles, and the space within the communion rail boarded and carpeted. The adjoining sacrarium has been restored in its groined ceiling, and made into a robing-room. A reredos for the wall behind the altar, with sacred monograms, the decalogue, &c. inscribed, and appropriate texts of Scripture over the table, are in course of preparation.

Birmingham.—The first stone of a new Presbyterian Church, to be erected in New John-street West, was laid by Mr. John Henderson, of London Works, on Monday in last week. The architect of the building is Mr. J. R. Botham, and the builders are Messrs. Hardwick and Son, all of this town. The building, which it is expected will be completed before the end of the year, is estimated to cost 2,000*l.* and will accommodate 800 persons, independent of galleries to be erected when necessary. The site cost 625*l.*

Weddington.—The parish church of Weddington, near Nuneaton, which has been under repair and restoration, was re-opened on Sunday before last. The cost of the repairs has been defrayed by the rector and the parishioners. The chancel and the altarpiece, representing the Crucifixion of our Saviour, have been restored by the rector. The Rev. W. H. Cooper and Mrs. Cooper, of Weddington-hall, have restored the transept. A Norman arch spans this transept, and two small coloured-glass windows have been introduced.

Wigton.—The portion of the new burial ground for the parish of Wigton, set apart for members of the Church of England, was consecrated on Friday before last, by the Bishop of Carlisle. The cemetery, says the *Carlisle Journal*, occupies a rising ground about a mile to the north-west of Wigton. Three acres of the ground are set apart for the use of members of the Church of England, and the remaining two for Nonconformists—the line of demarkation between the two being a broad walk and boundary stones, similar to those adopted in the Carlisle cemetery. The cemetery is enclosed by a freestone wall, 7 feet in height, except at the entrance, where a palisading is erected. On the right of the entrance-gate stands the Church of England chapel, with a vestry at one end; and on the other side are the curator's residence and the Nonconformist chapel. Both chapels are built in the Early English style, are 36 feet long by 16½ feet wide, and are fitted up in the interior with stained wood, and seats of the same material: the exteriors, however, are somewhat different. The whole of the buildings were designed and superintended by Mr. Stewart, of Carlisle, architect, and Mr. Jas. McKay was the builder.

West Hartlepool.—On Tuesday before last, the new Congregational church and schools at West Hartlepool were opened. The church is cruciform in plan, with nave, transepts, and tower. The narrow end of the triangle forms the tower which carries the stairs, and the broad end gives projecting transepts with side entrances to the vestry and boiler-house. The tower will be surmounted by a spire, now in progress, in alternate bands of red and white brick and stonework. Large schoolrooms are under the church, with vestry, boiler-house, and class-rooms attached. These will accommodate 500 children; while provision is made in the church for 800 sittings. Colour has been adapted to give relief to large flat surfaces and deepen the carved work of the screen, pulpit, and communion place. The wood work will be stained and varnished. The roof is open. The pews are low and sloping, but without doors. The windows are glazed with Hartley's patent quarry glass. The cost of the entire undertaking will be upwards of 2,500*l.* nearly 1,500*l.* of which are already subscribed. Mr. Oliver was the architect.

Sunderland.—The new cemetery at Monkwearmouth was consecrated by the Bishop of Manchester on the 27th ult. There are two chapels with belfries. The chapels are both alike, and capable of accommodating 100 persons each, with robing-rooms for the officiating clergy, and reception-houses for the dead attached. The

sexton's-house is at the entrance, connected with which is a covered gateway. The ground being high and undulating, it is walled in all round, except on one side, which is bounded by a water-course, advantage of which has been taken, and formed as a sunk fence, with waterfalls at intervals, terminating in an ornamental water. The buildings and walls are of unpitched stone, with dressed facings. The total cost, including the land, will be about 8,000*l*. Mr. Oliver was the architect.

FOREIGN INTELLIGENCE.

Novel Painting of a Market-hall.—The meat-market at Ghent is now completely free of the intolerable nuisance of flies. The simple remedy consists in the inner walls having been painted with laurel oil (*Oleum lauri nobilis?*), the smell of which the flies cannot support. Even gilt frames can be thus preserved unsoiled. The smell of the laurel oil is not unpleasant, and one easily gets accustomed to it.

Rome.—The column erecting by the Pope to the Virgin Mary, is near completion, but the sculptures are of a kind to raise pity. According to our informant, those who are accustomed to view sterling art, say that the basso-relievos which will surround the socle of the column will exhibit an utterly spoiled art taste, which must hide the poverty of the idea under a conventional drapery, and the tinsel of gilding. The Mary column will thus be one of the poorest, although the most expensive Roman monument.

Hamburg Art-Union.—The catalogue of this year's exhibition reaches 964 numbers, amongst which there are but few sculptures. This number is so considerable, that the space allotted to them will necessitate a change of specimens in the exhibition. Of Hamburg artists, fifty-three have sent in specimens, one from Rome, &c.

Berlin: Revulsion in the Labour Market of Europe.—To the draught on the European labour market, lately caused by the gold fields of the new continents, supervenes now that brought on by the re-opening of Russia, and the desire of developing her resources. The emigration of all sorts of mechanics to Russia has been, therefore, very great from Berlin, whence, amongst others, 400 cabinet-makers have left; so much so, that a deficiency of hands is already felt.

Berlin.—Hofbaurath Professor Starck was lately called to London by Prince Frederic William of Prussia. As the prince intends to re-build the palace inhabited by the late king, M. Starck brought the plans to England for inspection.—The seniors of the merchants have purchased the house, 25, Burgstrasse, to erect a new *börse* thereon. The plans have been approved, and the building is to be completed in two years.—The directors of the waterworks are obliged to have 1,300 waterspouts at the disposal of the fire-police, in case of conflagration, the cleansing of the streets, &c. A very systematic numbering, on coloured tablets, has just been introduced pointing out the places of these waterspouts.

THE DRAINAGE OF LONDON.

BOARD OF WORKS.

AT a meeting of the Metropolitan Board of Works, on the 22nd, the engineer's proposal to make the outfall for the main drainage in Erith Marshes, was negatived by an amendment proposed by Mr. Doulton, substituting Long Reach. On this amendment being put as a substantive motion, Mr. Alexander Wright moved, as an amendment, that it was desirable to carry the entire sewage by one tunnel to Sea Reach; and this being seconded by Mr. Wilkinson, Mr. Leslie laid before the Board his plan for effecting it. He showed that now, for the first time, the area on both sides of the Thames was made to form one metropolis, and he proposed the formation of one sewer on the south side from Putney to Sheerness. Providing otherwise for the storm waters, he calculated that a circular sewer, 10 feet in diameter, would answer the purpose, and he would bring the sewage of the north side across the Thames into it at two places, the Thames Tunnel affording one.

"The second question," to adopt the proposer's own words, "is, What would such a sewer cost? The various estimates I have obtained, including side entrances, &c. &c. &c. range between 15,000*l*. and 20,000*l*. per mile.

Let me, then, submit to your consideration the highest of these estimates, and multiply it by the longest calculated length, say 40 miles, and we have a sum of 800,000*l*.

"For which sum we should have an artificial channel from Putney, far down into Sea Reach, taking in its progress seaward the whole metropolitan sewage, and all the sewage of Erith, Dartford, Greenhithe, Northfleet, and Gravesend." * * * * * * * * *

"My datum line is the bottom of the water on the bed of the Thames at Putney. From thence to Sheerness, in the river's circuitous line, is about 50 miles, and the fall in the bed of the Thames is about 33 feet. In the shortened straight line this would give me a natural fall of about 10 inches per mile, and I should have to add to this natural fall 14 inches per mile, to make up the uniform fall or inclination of the sewer to 2 feet per mile.

I should then have to raise at the terminus the sewage about 50 feet, equal to 1,200 horse-power. I have repeatedly adverted to the effects of our contemplated works on the navigation of the River Thames, and the effect upon that navigation by the abstraction of large quantities of sewage water. This important question to our commerce must occupy the serious attention of this Board, and, in the arrangement of the works which it is our imperative duty to carry out, we must endeavour to find a compensation for this loss of water in the river by the abstraction of the existing sewage water.

We must seek for this compensation by separating the storm and surface waters, and the waters for public purposes, fountains watering the streets, &c. &c. which every vestry, every district Board, and this Board also, under the 150th section may procure, and in this great metropolitan improvement is involved the total destruction of the monster nuisance of gully gratings throughout the metropolis."

At the conclusion of Mr. Leslie's statement the Board adjourned, until Tuesday next.

THE NATIONAL GALLERY.

I HAVE not felt surprised at the dissatisfaction which has been so widely expressed at recent additions which have been made to the National Gallery of Pictures, for the chief merit of the new paintings is that they are curiosities of art. It is, no doubt, to a certain extent, desirable to collect such works for the use of the students, in order that, by a knowledge of the schools of bygone times, they may be able to form a just estimate of the deficiencies and advantages of their own. In a collection, however, which is formed for the instruction and amusement of the multitude, as well as for the use of students, it scarcely seems advisable to gather together numbers of primitive works which to the great mass of visitors must seem "flat, stale, and unprofitable."

In a national collection we should above all things have a fair example of the works of our national painters, and at every sacrifice collect, when the opportunity serves, the gems of artists like Reynolds, Gainsborough, or Wilkie. At present, the first of these, our greatest English painter, is not fairly represented in our National Gallery; and what an opportunity has been missed at the late Mr. Rogers' sale. The "Strawberry Girl," and "Puck," pictures, which ought to have become the property of the nation at almost any price, have been allowed to go into private hands. Such works as these must yearly increase in value, and if these pictures are at a future time purchased for the National Gallery, the price will be greatly in advance of that at the last sale. No one can properly appreciate the genius of Reynolds until he has seen the two pictures to which I refer, and undoubtedly both artists and the public suffer a loss by the absence of these pictures, for which the addition of the curiosities will only in a very small way atone. Our sweet, elegant, and truly English painter, Gainsborough, has not been well cared for in our national collection; but I trust that better taste and judgment are coming.

AN ARTIST.

ARCHÆOLOGICAL.

THE Archæological Institute will hold their annual meeting this year at Edinburgh, from July 22nd to the 29th. After an examination of Edinburgh, aided by Mr. Robert Chambers, there will be excursions to the Tweedside Abbeys—Jedburgh, Melrose, Dryburgh; to Dirleton Castle, an early example of castellated architecture; to Dunblane, Stirling, Linlithgow, the Roman Camp at Ardoch, the Vestiges of the Wall of Antoninus, Borthwick Castle, Hawthornden, and Roslin.

The British Archæological Association will meet at Bridgewater, from Monday, the 25th of August, to Saturday, the 30th. Patrons—The Earl Portman, Lord Lieutenant of Somersetshire, and the Right Hon. and Right Rev. Lord Auckland, Bishop of Bath and Wells. During the week visits will be paid to Glastonbury Abbey, Wells Cathedral, Bath Abbey Church, and various churches and places of interest in the neighbourhood.

Part I. of Vol. V. of papers published by "The Norfolk and Norwich Archæological Society," contains a fully illustrated notice of excavations made at Burgh Castle, Suffolk, by Mr. Henry Harrod. Under the head of Norwich Pageants, Mr. Fitch contributes some particulars of the mysteries performed by the Company of Grocers, from their books between 1534 and 1570. In the list of "particulars" belonging to the company, in 1565, we find "A Pageant, y^t is to saye, a Howse of Waynskott, paynted and buylded on a Carte w^t fowre whelys."

The last published collection of reports and papers, read at meetings of the Northampton, York, Lincoln, Bedford, Worcester, and Leicestershire Architectural and Archæological Societies (vol. iii. part ii.), comprises a number of very interesting contributions, including a history of the Abbey Church of Peterborough, by Mr. G. A. Poole, a large number of illustrations, by Miss Ada Brereton, to a paper on St. Mary's Church, Kirkburn, by Mr. Charles Brereton; Christian and Classical Art contrasted, by the Rev. Brook Bridges; on Colour, by Mr. Street, and others. The best illustrated paper is one on the Churches in the neighbourhood of Newark-upon-Trent, by Mr. C. Baily.

SCENERY AND EXHIBITIONS.

Her Majesty's Theatre.—Admirably well managed, indeed, is the last scene in *Le Corsaire*,—the storm, the lurid sky, the sinking ship, and the escaping group. It is not, as some of our contemporaries called it, the "finest work of the scene-painter ever seen in England;" no one would dissent from such a remark more strongly than Mr. Charles Marshall himself: but it is, nevertheless, an excellent and effective piece of stage-mechanism and painting conjoined. Mr. Lumley has been indefatigable in providing a change of singers and dancers: the great success of the season, however, is undoubtedly Madlle. Piccolomini.

The Haymarket Theatre.—There are three very good scenes in the sparkling ballet of "The Captives," for the Spanish dancers,—the ruins of an aqueduct and distant country; the walls of the Alhambra; and the Court of the Lions in that palace-fortress, with its fountain, richly decorated walls, and columns, "which," as one of the Moorish inscriptions says, "when struck by the rays of the rising sun, one might fancy, notwithstanding their colossal dimensions, to be so many *blocks of pearl*," and this is just the effect the artist has given to those in the distance. Comedy and farce prevail here, and with good effect. Mr. Buckstone is always at home.

The Polytechnic Institution.—A full-sized copy of Raffaelle's "School of Athens," painted for the University of Virginia, United States, by M. Paul Balze, is now being exhibited at the Polytechnic, and may be usefully studied. Those who know the difficulties of art best appreciate Raffaelle. It seems to be a very good copy, but is marred by an ugly join in the canvas.

THE OPERATIVE MASONS' SOCIETY.

THE forty-sixth anniversary of the Operative Masons' Benefit Society was celebrated on Tuesday, 15th of July, at the Manor-house Tavern, Walworth, adjoining the Surrey-gardens; Mr. C. H. Smith, in the chair. At four o'clock, about seventy operatives, chiefly masons, sat down to an excellent dinner. The usual loyal toasts having been drank, the chairman proposed the health of "Sir Charles Barry and the Architectural profession collectively." Although masons were generally employed by the builders, it was to the master-mind of the architect that they were chiefly indebted for the superior part of their occupation. He (the chairman), had particularized Sir C. Barry as deserving their especial notice, because no other individual had done so much for the working mason, as that distinguished architect. The masons might conscientiously pray for the health and long life of Sir Charles, to enable him to complete the palace of Westminster; for as far as his (the

chairman's) knowledge of history and antiquities extended, he could not recollect any building, in any country, during any period of history, having been erected with such an amount of ingenious mason's work as that which is already executed, together with that which is contemplated, to finish the great work at Westminster. Thirty or forty years since, it was the popular opinion, that the art and mystery of constructing vaulted ceilings in stone, similar to those of King's College chapel, at Cambridge, or Henry VII.'s Chapel, at Westminster, was entirely lost; but under the able direction of the architect he had named, the masons of Westminster had erected an octagonal roof, 60 or 70 feet in diameter, over the central hall of the Houses of Parliament, presenting quite as much elegance of design, and, perhaps, greater constructional science in its execution, than is to be found in any building of the middle ages, proving that the operatives of the nineteenth century only wanted the opportunity to show that they were able and ready to carry out the most ingenious and beautiful conceptions of the architect, in a manner creditable to themselves, and advantageous to their employers. In the evening, the masons were joined by their relatives and friends, of the feminine gender, and dancing was continued until after midnight.

STREET PAVING.

A SPECIMEN of a new system of street paving has been recently laid down by the parochial authorities of St. George's, Bloomsbury, in Southampton-street, Holborn end, which promises, according to its promoters, to be a remedy for the evils arising from dust, mud, noise, and danger to horses.

The component parts of this paving appear to be wood and granite, in alternate rows, formed into blocks of about 2 feet in length by 1 foot in width, and 8 or 9 inches deep, cemented with asphalte. The wood having been impregnated with creosote is rendered impervious to water, and being combined with stone, the advantages of wood paving for carriage traffic are retained, without the disadvantage of danger to horses, which resulted from its absorption of water during wet weather: the broken granite, moreover, being hemmed in and cemented, appears to be less liable to that abrasion by traffic which so easily converts it into mud and dust.

If these advantages can be combined (as alleged by the friends of this system) with greater economy in laying down, greater facilities for removal, to get at gas and water mains, than have been experienced with blocks or McAdam, without adverting to the absence of any necessity for taxing the rate-payers for such nuisances as water-carts in summer and mud-carts in winter, then indeed it would be an important step in the right direction towards mending the ways of the public in this great emporium of traffic. At present, however, we do not pretend to do more than chronicle the system.

SCAGLIOLA.

In reply to "D. W.'s" inquiry, scagliola is formed and manipulated as follows:—

The work (panel, &c.) is roughed in with gauged stuff (lime and hair and plaster), and when quite dry, Keene's cement is mixed in patches, each with a separate colour worked up with it,—chrome, sienna, black, Venetian red, &c. as may be required. It is then laid out the required thickness, and cut into triangular pieces, and pressed into the prepared ground with the fingers. Then, when quite dry, the surface is levelled down (if a pedestal, it is put into a lathe and turned), and then polished—first, with rough stone; second, with snake-stone; then flannel and putty powder, and finished up with beef fat and a linen rag. All holes must be made good with colour before polishing. THOS. GOODCHILD.

AMERICA.

THE North Baptist Church, at Hartford, Conn. now nearly finished, from the designs of Mr. Russell West, stands on a plot of ground which may be described as a rhomboid, 88 feet by 170 feet, with angles of 105 deg. and 75 deg. The site required the west front to be parallel with the line of the street, and the congregation desired to have the church and vestibules rectangular.

The walls are built of brown sandstone, uncoursed masonry; the facing neatly hammered and squared. The tower and spire stand at the south-west corner, 22 feet square at base, and 190 feet high. The vestibule is 32 feet by 37 feet, with columns, and carved capitals of Caen stone, supporting semicircular arches. The stairs in rear of the tower lead to a lecture room, 37 feet by 52 feet and 27 feet high, adjoining which is a small library in the tower. The church is 106 feet by 62 feet, and 43 feet high, divided by columns into a centre and aisles. Circular windows borrow light from skylights in the roof, and produce in the interior the effect of a clear story. Objections being made to the open timber roof, the ceilings are plastered, with ribs and enriched bosses, perforated for ventilation. The whole building is warmed by heated air from furnaces in the basement. There is an organ gallery at the west end. The side galleries are kept entirely behind the columns. The pulpit and bench ends are of oak, carved. Colour is not denied either to the casement or the walls. The semicircular arch is used throughout the building.

The glass staining was done by Mr. Henry Sharp, the decoration of the walls, by Mr. James Leslie, and carving by Mr. Aubé, all three formerly of London.

The ground is 7 feet lower at the east end than at the front. Advantage is taken of this to obtain well-lighted school-rooms in the basement. The whole cost will be about 70,000 dollars.

DEPARTMENT OF SCIENCE AND ART.

THE examination of candidates for the first certificate has this year extended to architectural drawing. The first examination took place on the 15th of July. The examination-paper was as follows:—

"1. What are the three principal mechanical actions to which building materials are subjected?

2. Name the two kinds of bond common in brickwork, and draw, in elevation, one quarter full size, the arrangements of the bricks in each case—giving the technical names for the ends and sides of the bricks.

3. To a scale of 1 inch to a foot, draw an oblong which shall represent a window space 6 feet high and 3 feet 6 inches wide: the wall above it to be carried by a *straight* brick arch 1 foot 6 inches deep. Give the names of the upper and under sides of the same, and also those at *c* and *c*; the lines *c c* forming an angle of 60 deg. with each other. Find the centre, and describe an arc showing the line of pressure in the arch. Below the opening show an inverted or discharging brick arch, the crown of which is 4 feet below the bottom of opening, and 9 inches deep. Show how the bricks would be laid, and state the object of these arches.

4. Explain by sketch the position of timbers used in single and also double framed floors, and give their names.

5. Give the names of all the timbers in the truss (a Queen's post roof), and state which are in compression and which in tension."

COMPETITIONS.

Cheltenham College.—Twenty-eight designs were sent in for a chapel to this college. The premium of twenty-five guineas has been awarded by the directors to Mr. Philip Boyce, the author of the design bearing the motto "Spes sua cuique." They have, nevertheless, returned to a design previously made by Mr. D. J. Humphris, who was connected with the institution, for execution, and have appointed the latter gentleman to carry it out. Their plea is that none of the plans sent in were suited to the site. The east side of the college has been decided upon as the site of the chapel, partly with a view to render that elevation of the building more complete, and partly with a view to giving the chapel a domestic character, in direct connection with the institution to which it will be attached.

BUILDERS' BILLS.

HORNER *v.* WARD.—The plaintiffs in this action (at the Marylebone County Court, before Mr. J. L. Adolphus) are surveyors, decorators, and house agents, of Hart-street, Bloomsbury; and the defendant is a merchant, of 3, George-yard, Lombard-street. The sum claimed was 16*l.* 17s. and defendant had paid 11*l.* into court in full satisfaction.

Mr. Horner, jun. stated that the defendant had an empty house, which they had on their books to let, and it requiring some repairs, the defendant instructed their firm to carry the alterations out. As a surveyor he could say, that the work was well done and the charges fair and reasonable.

Mr. C. King, surveyor, stated that he went over the work, and considered it well done and the charges very fair. By Mr. Keene.—Gave no notice on the other side of his intention to survey the work. The walls were not properly prepared for papering. The preparation of the walls would have incurred farther expense than what the defendant instructed plaintiff to do.

Mr. Keene said, the defence to the action was, that the whole of the work was improperly done and overcharged. His client did not dispute the claim as a matter of £. s. d. but he felt bound to show builders that they could not put off scamping work upon the public, and charge first-class prices for it.

Mr. Ward said he submitted to Mr. Horner what repairs were required, and certain charges were agreed to. When it was done he was very much dissatisfied, and gave intimation to the plaintiff that he intended employing a surveyor to look at the work. The answer he received was, that they would neither meet himself nor a surveyor.

Mr. Aldridge, a master painter, said the staircase wanted another coat of varnish, as it had only had one coat. He thought it was pretty well done, but the charges were too high throughout, and the money paid into court would pay a tradesman very well.

Mr. Armstrong, architect, stated that Mr. Ward, at his suggestion, served notice to the plaintiff respecting his going over the work, but there was no one on plaintiff's part to meet him. New paper had been put on old paper, which should have been stripped off. At first sight the paper did not seem to have been varnished at all, it was so badly done: the paper hung loose and not workmanlike. He advised Mr. Ward not to pay 16*l.* as the work was so badly done. By Mr. Horner.—It is customary in their profession to send notice by letter. Mr. Ward sent notice to the plaintiff to say a surveyor was just then on the premises. Could get respectable tradesmen to do the work for the sum paid into court.

Mr. House, defendant's clerk, proved to defendant's always complaining of the work.

The Judge was of opinion that there was good ground of complaint, and gave a verdict for defendant, with full costs.

THE PUBLIC OFFICES.

THE Select Committee appointed for the purpose of considering the best means of providing accommodation for the various Public Departments in the neighbourhood of Downing-street say in their report,—

"Your committee are of opinion that it is most desirable for the public service, both as regards economy and efficiency in the transaction of business, that there should be a concentration of the public offices, and that such concentration should be effected in the immediate vicinity of Whitehall and the Houses of Parliament."

"Your committee have taken evidence as to the sum for which the property comprised in the area bounded by the back of Richmond-terrace, the north front of the Irish Office, and Downing-street, on the north; New Palace-yard and Great George-street on the south; the river Thames on the east; and St. James's-park on the west, can be obtained. That space includes, with the buildings in Downing-street, 825,275 square feet, one-half of which it is calculated must be devoted to open spaces, and the other half to new buildings. Of this area, 171,638 square feet will be required for the offices before alluded to; 42,600 square feet for the accommodation of the Admiralty business now conducted at Somerset House, and 151,535 square feet for the other offices enumerated in the schedule appended to the evidence, leaving for additional buildings likely to be required, 46,864 square feet."

"It has been shown by your committee that, for reasons set forth in the evidence, it would be an economical arrangement to acquire, at the same time, the property between the north side of Great George-street and the Broad Sanctuary, together with the west side of Princes-street.

"Your committee recommend that, in case Parliament should sanction the acquisition of the properties before referred to, the design of the different public offices to be erected on the proposed site should be submitted to public competition."

Notices of Books.

Geometry of the Three First Books of Euclid, by direct Proof from Definitions only. By HENSLEIGH WEDGWOOD, M.A. London: Walton and Maberly. 1856.

THE "Elements of Euclid" have hitherto held their position in this country as the best introduction to the science of geometry. This has arisen from the rigorous mode in which the subject is treated, and the clear way in which conclusions are made to depend upon premises. The only work which has in any way superseded Euclid is that of Legendre, which is read by students on the continent; but although his Elements may surpass those of Euclid in elegance, yet much of the rigour of the latter has been sacrificed thereto. Euclid's Elements are undoubtedly full of defects, but of such a kind as can be remedied by the teacher. Mr. Wedgwood's work is one which may be found useful by the teacher in suggesting modes of reasoning different from those employed by Euclid, but it is not a book which could be placed in the hands of the student as an introduction to geometry. The definitions on which the whole is founded are clear enough to those who are advanced in knowledge, but would not be sufficiently so to the elementary student. The method of proving the equality of two figures

by superimposing one on the other may be used with advantage much more frequently than we find it in the Elements; as, for example, in the celebrated *pons 'asinorum*, in the proof of which it is employed by Mr. Wedgwood, and in which it has also been used by eminent mathematicians. The indirect mode of reasoning called the *reductio ad absurdum* is one which Euclid generally employs in the proof of converse propositions, and is certainly as rigorous and, we believe, as clear to the understanding of the student as the direct method of proof: our author, however, appears to think that it should be avoided as much as possible; but the process of reasoning which he in some cases substitutes for Euclid's indirect proof is in reality itself only *indirect* proof under a disguised form. The mixing up the third with the first book is taking a liberty with Euclid which is not justified by the advantages supposed to be gained thereby.

VARIORUM.

"The World's Highway" is the title of a pamphlet published by Weale, Holborn, and containing a reprint from the *Calcutta Review*, for March, 1856, of an article on a project by Mr. R. M. Stephenson, the managing director of the East-India Railway Company, for what may be called a through route of railway to India. The scheme is twofold, the greater and more complete comprising a continuous line, *viâ* Constantinople, &c. through Aleppo and Bagdad to Bussorah, at the head of the Red Sea, thence along its north-eastern shores, and along the coast of Mekran to Hyderabad and Hindostan. On the large map descriptive of this scheme, another is even shadowed out in the future distance branching off near Constantinople, and running along the south coast of the Black Sea by Sinope and Trebizond, thence boldly plunging into the interior by Erzeroum, Teheran, Herat, and Afghanistan to the Punjaub. Both routes would be united with the European system through Belgrade and Vienna. The minor and less improbable scheme would have a great break at Bussorah, whence there would be the usual steaming down the Red Sea, and the railway would be continued from Kurrachee, and thence run to Bombay. We have seen quite enough in our day to induce us to hesitate before dismissing even the vastest of these schemes as impracticable, but we have even some hope of seeing the more moderately extensive one, or something like it, at least, fairly carried out in course of not very many years. The idea of carrying the iron horse, and the wonders of his iron way, into the regions of the Arabian Nights, is not so preposterous as it may appear as yet to some.——In the *Edinburgh Review*, for July, there is an interesting article on the Growth of the Map of London, treating mainly of Maps and Directories, statistics and provision, &c. In allusion to the nativity of London residents, the writer remarks, that few persons have the slightest conception of the extraordinary number of country people residing in London. He estimates the number of actual natives of London at less than one-half of the whole population: in other words, more than half of that population consists of country people! Who can speak of "London for the Londoners" after that? In fact, as we have before noted, London is an *omnium gatherum*, not only from all parts of England, Scotland, and Ireland, but from abroad as well, there still being an amalgamative process going on that reminds one strongly of the ancient origin of the Anglo-Saxon. There are no less than 110,000 Celts from Ireland in London. There are no less than 37,000 Devonshire people, 34,000 Hampshire people, and so on. The 30,000 Scots are really a modest contribution by comparison with the country English and the Irish in London; and the Scots seem scarcely, therefore, to merit the reputation they have for "coming south," so far as regards the great English centre at least. There are even 30,000 *foreigners* residents in London, 10,000 of them German and 7,000 French. As we have before pointed out, London actually contains more natives of certain English counties than the capital towns of these counties themselves contain.——"Social Delusions concerning Wealth and Want," is a suggestive little volume, by one who evidently thinks for himself, and whose thoughts, however much one may differ from him on many points, are well worthy of grave consideration. The author is Mr. Richard Jennings, of Trinity College, Cambridge, and author of a work on the natural elements of political economy. Messrs. Longman and Co. are the publishers of the present work. Mr. Jennings is no slavish disciple of any school of political economy: he rather aims at the introduction of a new system, on which we cannot well enter, but which it is both interesting and instructive to contrast with the old, whatever view one may feel inclined to take of either. We could pick out many points on which we think the author's views are wrong, but there is much on most important principles in which he is evidently right and our more established teachers mistaken; and, on all points, the book is well worth reading.——We are pleased but by no means surprised to learn that the first edition of Mr. Timbs's "Things not generally known familiarly explained," has been exhausted, and a second edition now published (Bogue, Fleet-street). The work is even improved on various points, and truly forms "a book for old and young."——"The Stereoscope; its History, Theory, and Construction, with its Application to the fine and useful Arts and to Education," by Sir David Brewster, has been published by Murray, of Albemarle-street. To those (and they must now be many) who desires to understand the mystery and the history of that new wonder of the day, the stereoscope, which affords amusement and instruction to so many thousands, there can be no better or more standard work to consult than this by Sir David Brewster. The present volume is illustrated with fifty wood engravings, and gives a complete account of the stereoscope in theory and practice, a short chapter on its application to sculpture, architecture, and engineering inclusive.——Two very useful little books for the young, whether at school or at home, have just been published by Messrs. Longman and Co. of Paternoster-row. One is titled, "A complete Catechism of the Descriptive Geography of England, compiled for the use of Schools and private Families," by T. Challener. The other is titled, "The Stepping-stone to Natural History," by James Owen; and contains an account (in the form of question and answer, like the other compilation just referred to) of the vertebrate or back-boned animals,—viz. mammalia, birds, reptiles, and fishes.

Miscellanea.

FALL OF WALL, HENRIETTA-STREET.—On Saturday night last, a party-wall, recently erected between a house about to be built at the corner of Bedford-street, Covent-garden, and the offices of the Board of Works for the Strand district, fell to the ground from the level of the one-pair floor. Fortunately no person was hurt. The accident is ascribed to the proceedings of the "old material men," who were taking down the house at the corner.

IRISH RAILWAY PROGRESS.—The opening of the Limerick and Foynes Railway took place on Thursday before last, the Lord Lieutenant and the directors of the line being present. Of the entire distance to Foynes—about thirty miles in extent—the line has been perfected as far as Rathkeale, a point 17¼ miles from Limerick. Mr. Dargan is the contractor, and Mr. Lefanu, engineer-in-chief to the undertaking.——Arrangements, it appears, have been recently made, which can hardly fail to secure the immediate construction of ample railway accommodation to the western and northern ports of Connaught. Two lines are said to be likely to be constructed—one leading from Athlone to Sligo, and another from Athenry to Castlebar. Some of the Galway interests are in favour of a line to Tuam, making Tuam the terminus, but those who take a more comprehensive view of the question wish to run the line to the confines of Mayo, there to meet the Castlebar continuation, and thus turn the whole tide of the Mayo traffic into the Galway line.——A prospectus for a direct railway from Newry to Armagh has been published.——The sum of 30,000*l.* will be lost, it is said, by the Great Southern Railway from Limerick to Cork, by the forgeries of the convict Knighting.——In consequence of the absorption of labour by the Roscrea and Parsonstown Junction Railway, some farmers and gentlemen in the neighbourhood of the new work, have had to increase the hire of their men to 1s. 6d. per day.

BUILDERS' BENEVOLENT INSTITUTION.—A meeting of the committee appointed to carry out the design of presenting a testimonial to Mr. Thomas Cozens, as the founder of the Builders' Benevolent Institution, was held at the offices of the Charity, the other day. Mr. G. Bird, the treasurer, presided. Mr. Jos. Bird, the hon. secretary, remarked that several parties had subscribed for the testimonial, and amongst them Mr. Alderman Cubitt, M.P. who had put down his name for 5*l.* 5s. It was to be hoped that gentlemen who are connected with the trades represented and relieved by this institution would at once come forward, as the list would shortly close.

NATIONAL WATT TESTIMONIAL.—Donations of materials for the Greenock monument were made last week from the quarries of Giffnock, Ward-hill, Nitshill, and Arden, amounting to 2,000 tons. Stones have arrived from Montreal, the Giant's Causeway, the Isle of Man, &c. &c. Valuable contributions are expected from Italy; and Cornwall and Tipperary will add to the mass. Several shipowners on the Mersey and Clyde have offered to transport, free of charge, from any port to which they trade, materials of any character or dimension tendered for incorporation in the Watt Testimonial. A contribution has just arrived in the form of a single stone of large dimensions from the Seneca Quarry, on the Potomac, Maryland, U.S. the gift of a former townsman, Mr. Gilbert Cameron, contractor for the erection of the Smithsonian Institution Buildings. The site of the intended monument has been marked out by Mr. David M'Intosh, of London, the architect who designed and carried out Sir Gabriel Wood's Mariners' Asylum, and the ground is in course of being levelled, previous to the excavation of the foundation.

THE METROPOLITAN TURNPIKE ROADS.—The Select Committee of the House of Commons have made their report. Impressed with the great inconvenience of the existence of tollgates in the populous districts of the metropolis, and of the importance of providing, if possible, some mode of remedying this inconvenience, the committee suggest their re-appointment next session for the purpose of completing the evidence. As a proof of the greatness of the grievance complained of we may quote the evidence of Mr. Arthur Ashpitel, an owner of land and house property in Hackney and Clapton. He shows that the vexatious and exorbitant tolls levied by the trustees of the Lea-bridge-road are a serious burden on his territory, and, in fact, operate to prevent the leasing of some of his property altogether, the tolls deterring persons from coming forward as tenants. There are so many gates that Mr. Ashpitel, in driving five miles, is often obliged to pay four gates, viz. the Lea-bridge-gate, the Clapton-gate, the Ball's-pond-gate, and the City-road or New North-road-gate. A heavy toll at Ball's-pond does not clear a second gate at Dalston, within about a mile and a half, and if the traveller try to evade this second toll by a by-road, he is stopped by a private tollbar at Hackney, set up by a special act of Parliament.

PUBLIC BATHS AND WASHHOUSES FOR THE CITY OF LONDON.—At the Court of Common Council, last week, Mr. Abraham moved "That the physical and moral condition of man is much influenced by cleanliness in his dwelling, person, and apparel; that the want of public baths and washhouses in this City is severely felt by the labouring and poor population; and that it be referred to the City Lands Committee, the Coal and Corn and Finance Committee, and the Improvement Committee, to consider and report to this court the best means of supplying the want alluded to, and the estimated cost thereof; and whether a suitable place can be found in the City of London for the erection thereof." Mr. Ross seconded the motion, and Mr. H. L. Taylor moved the previous question, by way of amendment. Mr. Bell seconded the amendment, and, after some discussion, the amendment was negatived by a majority of 12—the numbers being 30 and 18. The original motion was then carried.

SALE OF BUILDING SITES AT NORWICH.—The following is the result of a sale of building sites, last week, by auction. Lot 1, 1,265 square feet, having a frontage of 73 feet on London and Opie-streets, sold for 572*l.* Lot 2, 1,048 square feet, frontage 27 feet 6 inches, sold for 466*l.* Lot 3, 928 square feet, frontage 21 feet 6 inches, sold for 170*l.* Lot 4, 840 square feet, frontage 21 feet 6 inches, sold for 170*l.* Lot 5, 557 square feet, frontage 38 feet, sold for 175*l.* Making a gross sum of 1,553*l.*; being after the rate on an average of 6s. 10d. per square foot, or about 15,000*l.* per acre; the highest price being after the rate of 9s. 0½d. per square foot, and 20,000*l.* per acre.

ELEMENTARY DRAWING FOR CLASSES.—Mr. T. J. Rawlins puts in a claim for more consideration than he has obtained in respect of the adoption of his system of Elementary Drawing for Classes by the Government Department at Marlborough House. It has been used by him for many years, at St. Mark's College, Chelsea.

GAS.—The sudden and unexpected rise in the price of gas at Ware, from 4s. to 6s. per 1,000 cubic feet has induced the consumers to think of establishing a rival company. Complaints prevail, too, both as to the quality and the quantity of the article provided. The Limited Liability Act, it is thought, will facilitate matters, either as regards the formation of a new company or the bringing the old to reason.——The Limited Liability Gas Company in Stockton have purchased the works belonging to the old company, and thus put an end to the differences that existed between them. New and spacious works are being erected, and the old works are to become a gas depôt for the south end of the borough.——The builders of the large gasometer lately erected in the gas-works at Boston were last week engaged in making improvements and alterations, when a shore gave way, and the gasometer fell to the bottom of the tank, and was seriously damaged. This is the third accident, it is said, which has occurred since the erection of this gasometer, which is thought to be too large to be manageable.——The Cupar Gas Company directors have just announced a return of 10 per cent. to their shareholders, and a reduction of 10d. per 1,000 cubic feet to their customers. The price will now be 5s. 10d. The profits are said to be on the increase as the price decreases.——The fourth gas-work erected for the Sultan's palaces at Constantinople was put in operation on 19th May, at the new palace on the Bosphorus, on which occasion the large chandelier, weighing about 10 tons, with 464 lights (sent from London, and supposed to be the largest in the world), erected in the hall of audience, together with the gardens, orangeries, &c. were brilliantly lighted up, in the presence of the Sultan, the ladies of the harem, and officers of state; the whole presenting a most lively and interesting appearance. The engineer of the works, Mr. James Crawford, was personally complimented by the Sultan for the satisfactory manner in which the works and lighting-up had been completed. The work at the new palace consists of forty-two retorts and four gasometers. More extensive works, in connection with the Turkish government, are in course of erection, under the superintendence of the same gentleman, to light up Tophana, Galata, Pera, &c.

SUSSEX ARCHÆOLOGICAL SOCIETY.—The annual meeting of this society was held on Thursday in last week, at Bodiam Castle. A large assemblage proceeded at once to view the old church of Etchingham, the peculiarities of which were explained by Mr. Slater, architect. After the inspection, many of the party repaired to the rectory, where refreshments were provided for the members of the society. Omnibuses and other vehicles were in waiting to convey them to Bodiam, a distance of five miles from the railway. *En route*, a visit was paid to the old mansion of Haremare. On arriving at Bodiam, the members who had arrived by railway were met by many others who had reached by private conveyances. The first object viewed was the church, which has recently been restored and decorated at the expense of Mr. W. Cubitt. The castle was, however, the chief point of interest. After inspecting it, about 300 sat down to dinner, in a large booth in a field near the castle. In course of the evening, Mr. Mark Antony Lower read a paper on the descent of the manor and castle of Bodiam ,a report of which appears in the *Brighton Herald*. The chairman, in the course of his speech, stated that there was a gentleman present who could prove that the Roman city of Anderida was not Pevensey, in Sussex, according to the views advocated by the society, but Newenden, in Kent. This remark called forth Mr. Lower, who dared the gentleman (whose name did not transpire) to the proof of his assertion. The challenge, however, was not taken up. Thirty-three new members were admitted at the Bodiam meeting.

GREENWICH.—On the 19th, Mr. Gutch, of Paddington, entertained a number of his brother-district surveyors, at the Trafalgar, including Mr. Donaldson, Mr. Foxhall, Mr. Kendall, Mr. Good, Mr. Howell, Mr. Henry Baker, Mr. Snooke, Mr. T. H. Wyatt, Mr. Charles Mayhew, and others. Such meetings of men engaged in similar duties, and, moreover, in other parts of their practice brought into collision with one another, have a beneficial effect, tending to produce uniformity of practice, and to remove asperities.——Her Majesty's ministers came to the same house, at the same time, to eat their white-bait dinner: they landed on a dirty old coal-barge, and were received by two or three men in dirtier shirt-sleeves. We are certainly a primitive, inartistic, and unpretending people. The only demonstration made on the occasion, was the arrival of four boat-loads of the boys of the Marine Society, who came out, apparently, to show how well they couldn't row, and to drink a certain amount of beer as their reward: they ought to be taught better.——Poor Bellot's obelisk is not well placed. It is squeezed into a small gusset-shaped piece of ground, surrounded by iron railing.

COLNEY HATCH ASYLUM FOUNDATIONS.—At a recent meeting of Middlesex magistrates, Mr. Northall Laurie said,—"Colney Hatch Asylum had only been open about five years, and had cost the county considerably over 200,000*l.*; and it was in circulation that the present state of that important building, of which so much had been said, was such that the committee had to call in Mr. Lewis Cubitt, the architect, to examine the same; that that gentleman had made a careful survey, and had sent in a report giving a most unsatisfactory account of the foundation of the asylum. There was a frontage of 1,700 feet, the whole of which he heard would require underpinning, and the roof and superstructure was in an equally unsatisfactory state. He wished to know if that was a correct statement, and if so, when the report of Mr. Lewis Cubitt would be submitted to the court?" Mr. Cottrell replied, that the committee had received reports on the subject, and had forwarded them to the architect of the asylum for his reply. However, he could not go the length of the statement of his learned friend (Mr. Laurie) that the whole of the foundations would require to be underpinned; but he understood that as a difficulty had been experienced in carrying off a large quantity of stagnant water, it had, to use the expression contained in the report, "eaten into the foundation," and had thus created a subsidence, followed by a sinking of the roof.

WOOD PLANING BY MACHINERY.—A planing machine of extraordinary dimensions has lately been manufactured by Messrs. John McDowall and Sons, of Johnstown, near Glasgow. It is capable of working all descriptions of wood, from ¼ inch to 6 inches in thickness, and from 3 inches to 12 inches in breadth, running through at the rate of 50 lineal feet per minute. The operations of planing, thicknessing, feathering, grooving, and jointing, are all performed at once.

MASONS' STRIKE, CARDIFF.—This strike is virtually at an end, the masters having succeeded, with one exception, in replacing the workmen from other places. Messrs. Rennie and Logan, it is stated, have yet room for a few hands on their contract for the wall at Cardiff gaol; but they expect in a short time to obtain all they want, as additional workmen are continually arriving. The principal cause of this termination is doubtless that the workmen demanded a higher rate of pay than the natural market rate. The wages of Cardiff previous to the strike were higher, our correspondent states, than in Newport, Merthyr, Swansea, Bristol, and all other places within a distance of fifty miles. They were also entirely unsupported by public opinion, and the unreasonable nature of their demands were pointed out in a former number of the *Builder*.

MR. RAWLINSON, C.E.—The *North and South Shields Gazette*, in a leading article commenting upon the distribution of marks of honour conferred for services during the late war, alludes to the Sanitary Commissioners, as having received the "cold shoulder from the incapables at the head of the medical department." The claims of Mr. Rawlinson are especially referred to:—"He laboured in the East earnestly and well; and however much the heads of the Army Medical Department may strive to shoulder aside their merit, there is no doubt whatever that to the Sanitary Commissioners mainly belongs the credit of placing the hospitals and the camp in the favourable position, as to public health, which they have since the spring of 1855 enjoyed. Mr. Rawlinson, we say, laboured earnestly and successfully in his duties, until struck down."

ARCHITECTS AND JURIES.—I have been summoned to form a jury at the Durham Assizes, where I shall probably be detained four or five days, some twelve miles away from home. This, I presume, I am bound to do; but does it not appear strangely inimical to justice and common sense that I should be held legally responsible for fatal accidents which may happen to occur on works erecting under my superintendence elsewhere, on the presumption that I ought to be always there, as in the case of Mr. Abrahams? I should be glad to do something, if I knew *what*.

ARCHITECT.

[ADVERTISEMENT.]

TO THE EDITOR OF THE "BUILDER."

MESSRS. CLARK and Co. of 15, Gate-street, Lincoln's-inn-fields, having erected at our premises two very large revolving-shutters, one weighing upwards of two tons, we feel much pleasure in recommending them, having acted exceedingly well during the whole of the three years they have been in use; also for the lowness of their charges and rigid punctuality, entitling them to the support of all those with whom durability is economy and time saved money made.

Our shutters may be seen nightly in active operation at eight o'clock.

SOWERBY, TATTON, AND COMPANY, Linendrapers. Regent-circus, Oxford-street.

TENDERS

For the erection of chapels, lodges, and entrance-gates in the new cemetery at Scarborough, were opened by the Burial Board on Tuesday last, and those marked * were accepted:—

Masonry—	
Wright and Peel, Bradford	£1,360 0 0
John Whitehead, Harrogate	1,253 10 0
Wm. Dove, Scarborough	1,163 12 2
*John Wilson, Scarborough	1,023 0 0
Joinery—	
Thos. Watson, Scarborough	387 0 0
John Kelly, Scarborough	330 0 0
Wright and Peel, Bradford	321 0 0
John Richardson, Scarborough	278 0 0
*James Kirby, Scarborough	276 1 0
Plastering—	
John Gilson, Scarborough	68 0 0
Wm. Sergeant, Scarborough	55 10 0
John Wilson, Scarborough	47 0 0
Wm. Dove, Scarborough	39 2 6
Croft and Braithward, York	37 0 0
*Benj. Smith, Scarborough	32 0 0
Plumbing—	
Geo. Underwood, York	64 5 0
Rich. Snowden, York	49 19 0
A. Gilson, Scarborough	45 0 0
H. Stephenson, Scarborough	44 8 6
*H. Hornsey, Scarborough	43 0 0
Painting—	
*R. Eastwood, Scarborough	27 10 0
Slating—	
Hill and Sutcliffe, Bradford	84 5 6
Wm. Dove, Scarborough	83 3 5
*Josh. Hardgrave, Scarborough	82 15 6
Ironwork—	
Thos. Whitehead, Scarborough	57 0 0
R. H. Peacock, Scarborough	56 0 0
*W. Ayres, York	40 0 0

For the erection of a carpet factory, for Messrs. Crane and Barton, Kidderminster. Mr. T. E. Bland, architect. Quantities supplied:—

Ferguson	£3,950 0 0
Barnsley and Sons	3,790 0 0
Thompson	3,786 0 0
Ankrett	3,560 0 0
Smith	3,550 0 0
Webb and Sons	3,489 0 0
Walker	3,264 0 0
Brunian	3,065 0 0

For extension of Messrs. H. T. Dixon and Co.'s carpet factory, at Kidderminster. Same architect. Quantities supplied:—

Barnsley and Sons	£2,350 0 0
Webb and Sons	2,110 0 0
Burkett	1,860 0 0
Walker	1,833 0 0
Ankrett	1,780 0 0

For the erection of the Leicestershire Banking Company's premises, at Market Harborough. Same architect. Quantities supplied:—

Lindley and Firn	£1,760 0 0
Herbert	1,697 0 0
Norman and Son	1,665 0 0
Burdett	1,615 0 0

For the erection of a villa residence, at Pinner, Middlesex, for Mr. Benjamin Weall, sen. Mr. Henry Mawley, architect. Quantities supplied by Mr. Lane:—

Patience	£1,932 0 0
Woodbridge	1,898 10 0
I'Anson	1,894 0 0
Mansfield	1,859 0 0
Matthews	1,847 0 0
J. Clemence	1,789 0 0

For the tanks and engine-house for deodorizing works, and main outfall sewer, for the township of Luton Local Board. Mr. T. L. Evans, engineer:—

Williams	£3,720 0 0
Rowe	3,617 0 0
Coker and Oakes	2,760 0 0

For the erection of new county court and magistrates' rooms, &c. Alfreton, Derbyshire. Mr. Benj. Wilson, architect:—

Lindley and Son, Mansfield	£1,400 0 0
Heath and Watts, Chesterfield	1,156 10 0
Joseph Evans, Greenhill-lane	1,040 0 0

For additions to the Pavement Chapel, Hoxton. Quantities supplied:—

	Vestries.		Total.
Turner and Sons	£280 0 0		£2,556 0 0
Williams	282 7 8		2,497 16 2
Pinnager and Son	295 2 7		2,519 15 6
Humphreys	262 0 0		2,376 0 0
Keast and Moon	268 0 0		2,383 0 0
Day and Co.	265 0 0		2,353 0 0
Patman and Fotheringham	268 0 0		2,370 0 0
Little and Son	242 0 0		2,276 0 0
Tarrant	240 0 0		2,188 0 0
J. Wood and Son	228 0 0		2,164 0 0
Riley	275 11 6		2,222 3 6
Hocken	272 0 0		2,139 0 0
Ennor	239 0 0		2,061 0 0
Clever	240 0 0		2,040 0 0

TO CORRESPONDENTS.

"*Nelson, in Trafalgar-square.*"—The statue of Nelson, in Trafalgar-square, is made of stone similar in most respects to Craigleith: it came from a quarry belonging to the Duke of Buccleuch, at Granton, three or four miles from Edinburgh, in the same line of hills as the Craigleith. The stone is very like Craigleith, but not quite so hard, and but very slightly laminated.

"N."—"A. S. S."—"W. R."—"A Constant Reader."—"H. C."—"Mr. N."—"C. K."—"J. B. W."—"Fides" (the "Soane Medallion" is of course a valuable testimonial).—"G. G."—"Mr. M. E."—"F. W. S."—"J. E. B."—"R. D."—"E. C."—"P."—"J. C."—"F. D."—"G. T."—"A Painter."

"*Books and Addresses.*"—We are forced to decline pointing out books or finding addresses.